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ABSTRACT

The report addresses the need for rectifying overrepresentation of minority students (especially black students) in classes for the educable mentally retarded. Recommendations made in 1979 by a panel established by the National Research Council of the National Academy of Sciences are reviewed. Case studies illustrating six successful alternative instructional practices within the regular program for students experiencing academic failure are presented. Information on the practices includes type of practice, name of program, description of program, evidence of effectiveness, applicability to local education agencies, and a list of references. The six practices identified and described are direct instruction with DISTAR, an approach designed to systematically move students through a sequenced set of academic materials; the Exemplary Center for Reading Instruction, which focuses on individualized instruction and positive reinforcement; precision teaching, a set of measurement procedures to guide teachers and students in making better educational decisions; peer tutoring; Adaptive Learning Environment Model, which promotes a redefinition of roles for administrators as well as special and regular educators; and computer assisted instruction. (CL)

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TECHNICAL ASSISTANCE ON ALTERNATIVE PRACTICES RELATED TO THE PROBLEM OF THE OVERREPRESENTATION OF BLACK AND OTHER MINORITIES STUDENTS IN CLASSES FOR EDUCABLE MENTALLY RETARDED

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U.S. Department of Education
Contract No. 300-82-0191

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DRAFT

CANTALICIAN
FOUNDATION

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Dear Participant:

The Cantalician Staff would like to welcome you to our workshop titled, "Technical Assistance on Alternative Practices Related to the Problem of the Overrepresentation of Black and Other Minority Students in Classes for the Educable Mentally Retarded."

The overrepresentation of minority children in special education is a growing concern. Through this workshop we will share with you alternative practices which show signs of reducing the problem of minority overrepresentation. You will be provided with technical assistance to utilize the programs presented.

We have prepared this notebook which includes a Module-by-Module Outline of the day's activities and a written description of these alternative programs. We are confident this notebook will help you familiarize yourself with these exemplary programs during the workshop, and share this information with others afterward.

Again, we welcome you to our workshop and trust this will be a productive experience for us all.

Sincerely,

Sister Raphael Marie, CSSF

Sister Raphael Marie, CSSF
President

SRM:las

	TIME	OBJECTIVES	CONTENT	METHODOLOGY
MODULE I	9:00 - 10:30 am	Identify Issues - Overrepresentation of minority children in special education - Disseminate knowledge of exemplary educational practices	- National Academy of Science Study - Categorization as prerequisite for funding - Children as instruction casualties - Need for effective research	- Lecture - Large group discussion - Question and Answer
MODULE II	10:30 - 11:15 am	- Identify alternative assessment and referral practices	- Program Review: • Pupil Appraisal Assessment Program • Rapid Exam for Early Referral (REFER) and Classroom Learning Screening (CLS) • Reclassify/Declassify • Kaufmann Assessment Battery for Children (K-ABC) • Interactive Model for Professional Action and Change for Teachers (IMPACT) - Discription of Program - Resources needed to implement - Technical adequacy - Application in LEA	- Lecture - Large group discussion

	TIME	OBJECTIVES	CONTENT	METHODOLOGY
MODULE III	11:15 am - 12:30 pm	- Identify alternative regular education practices	- Program Review: • Direct Instruction with DISTAR • Peer Tutoring • Computer Assisted Instruction • Exemplary Center for Reading Instruction • Adaptive Learning Environments Model • Precision Teaching	- Lecture - Large group discussion
MODULE IV	1:30 - 3:45 pm	- Provide participants with opportunity to select two programs (1 hr. each) for indepth program review	- Indepth programmatic and administrative review of selected practices	- Participant-selected small group discussion - Question and Answer - Informal large group discussion
MODULE V	4:00 - 5:00 pm	- Provide opportunity for participant feedback		- Informal large group discussion

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INTRODUCTION

There are more, often many more, minority students in special education programs for educable mentally retarded (EMR) students than would be expected if predictions were based solely on the proportion of minority students in the community. This is called disproportion or overrepresentation. It is neither a new nor an isolated phenomenon and it is especially true for black children (Heller et.al., 1982). The 1978 Office for Civil Rights (OCR) biannual nationwide survey of students, for example, revealed that while approximately 16 percent of all elementary and secondary students in this county are black, approximately 38 percent of the students in classes for EMR students are black. That is overrepresentation. The proportions vary from place to place but the overall pattern is very clear. (Finn, in Heller et al, 1982.)

What is not so clear is what causes the situation. Is it our students, our culture, our history, the way our schools are organized? Is it prejudice and discrimination? Technically inadequate tests? Or just bad practice? Is it an attempt to make the best of a bad situation, or is it a way to hide embarrassing problems? Is overrepresentation actively pursued, or is overrepresentation the result of benign neglect? Of naivete? Of well intended ignorance? And just as there is disagreement about cause, so too is there disagreement about what to do about the situation. Do we eliminate educable mental retardation? Intelligence testing? Do we juggle the statistics? Should we create new names for old programs?

While disagreements continue, policies are made, programs are set in motion, actions are taken, and children go to school. What should be done? What needs to be done? To help answer such questions, to help it understand minority overrepresentation better and to help it formulate sound policies to protect minority school children against discrimination, the Office for Civil Rights' technical assistance division sought guidance from the National Research Council of the National Academy of Sciences. In 1979, the Council established the Panel on Selection and Placement of Students in Programs for the Mentally Retarded and charged it with a twofold mission:

> (1) to determine the factors that account for disproportionate representation of minority students and males in special education programs, especially programs for mentally retarded students and (2) to identify placement criteria or practices that do not affect minority students and males disproportionately. (Heller et.al., 1982, ix)

The panel recommended ". . .six principles of responsibility that must be adhered to in order to ensure valid referral, assessment, and placement and high quality programs of instruction." The six principles, the panel felt

> . . .are consistent with current law and educational theory, [but] to a large extent they are not followed in practice, nor do they underlie current systems of assessment, classification, and instruction. Faithful adherence to these principles would have far-reaching effects on the organization of both regular education and special education systems. (Heller et.al., 1982, p. 93).

This report is based on and draws from the panel's work. The panel provided perspective and the background; it made recommendations and referred to a number of possibly helpful practices. We have taken the next step by searching the country for state education departments and school districts which are successfully applying or have successfully applied the principles recommended by the panel. We have searched especially

for successful alternative instructional practices within the regular program for students who are experiencing academic failure. We have also searched for referral practices and for alternative evaluation and assessment practices that have been used to guard against the misclassification of minority children.

We did not search for THE GRAND SOLUTION - because we did not believe one existed - and we do not think we found one. What we found is a number of programs, particularly alternative educational practices, that are helping a great variety of students learn in regular classroom settings. There are classes where special education students study with regular education students and you would never be able to pick them out. There are classes where the teacher will point to a student and tell you that were it not for the successful alternative practice, that student would have been referred to special education. There are schools where nearly all of the students are minority children, and they are out performing other nearly all white schools in the district. Look at the data; better still look at the programs in operation. There are many schools doing a wonderful job teaching students who too often would be assigned to special classes. Those students are learning in regular classrooms.

The practices we have located are described here as case studies. Enough detail is included to provide basic knowledge of how the practices work, of the resources needed to implement them, and of their applicability, limitations, and effects to date. References and additional resources are provided. Readers of the case studies will become more familiar with successful regular education alternatives for students experiencing academic failure and with more valid referral and assessment techniques and procedures for assigning children to classes for Educable Mentally Retarded or other mildly handicapped students. Readers can compare the case studies to their own situation and should they have questions or need additional information, consult the provided references and other resources. Readers may adopt or adapt these or similar practices in their own schools. When this happens, when more schools use successful regular class alternatives to special education placement and valid referral and assessment procedures for assigning students to special classes, we believe the number of black and other minority students in special education classes will be reduced and an increasing number of all students will be appropriately and successfully educated in the regular classroom's less restrictive environment. In the most general sense, education for all children will have been improved.

But a few cautions are in order.

1. We are dealing, here with complex, long-standing problems that are not amenable to a "quick fix." There are no overnight solutions in the descriptions which follow, and there are no shortcuts. These practices can help, but by themselves they will not solve the ongoing challenge of helping our schools respond better to existing needs.

2. Because the practices have been successfully implemented in one site does not mean they will necessarily work in another, or that the only way they will work is to reproduce exactly what has already been done. These practices are possibilities that need to be studied and discussed within the context of particular school districts.

FOUNDATIONS OF THE REPORT

This report has two related foundations. The first is the Office for Civil Rights' (OCR) charge to protect school children from discrimination, especially as defined by Title VI of the Civil Rights Act of 1964, the regulations of Section 504 (Rehabilitation Act of 1973, 29, U.S.C. 706). The second is the recommendations of the National Academy of Sciences' Panel on Selection and Placement of Students in Programs for the Mentally Retarded which were reported in Placing Children in Special Education: A Strategy for Equity (Heller et al., 1982). An overview of each foundation is presented below.

Today, educators are very concerned with how litigation and legislation affect their programs. The Fourteenth Amendment of the United States Constitution, which guaranteed the equal protection of all citizens under the law, was the foundation of much early litigation. Title VI of the Civil Rights Act of 1964, proscribed discrimination in federally funded programs and served as a model for other remedial legislation that followed. Title VI applications occurred primarily in the field of public education and legal action and precedent derived from those applications reflect that focus. More recently, Public Law 93-112, the Rehabilitation Act of 1973, became important because it mandated that the handicapped could not be discriminated against. The regulations for Public Law 93-112, Section 504, and Public Law 94-142, the Education for all Handicapped Children Act (which to a large extent was based on Section 504) establish requirements central to this report. Two concerns requiring special attention are protection in evaluation and least restrictive environment.

Protection in Evaluation

The regulations for Section 504 and PL 94-142 include requirements designed to prevent the misclassification of students and to identify their educational needs. Requirements seek to ensure that: (1) children suspected of handicaps receive an individual evaluation; (2) a child's placement decision and educational plan are based on an overall educational assessment, not on the results of a single educational test; (3) tests and other assessment procedures are not racially and culturally discriminatory; and (4) all evaluation materials must be validated for the purpose for which they are being used.

The regulations clearly call for the development of alternatives to the traditional assessment and evaluation model, and they deemphasize the use of a single criterion, such as the results of an intelligence test, in making placement decisions. The regulations require that tests and other assessment procedures be valid and that they not be biased. Much work has been done to ensure such conditions but to date there has been little success. Because of this, and because we believe that it is going to be a long time before either the validity or the bias issue will be resolved, we have chosen to emphasize alternative educational practices and referral systems. Doing this, we believe, will focus attention on practices that in the long run will be more likely to have a positive impact on the disproportion of minority students in classes for Educable Mentally Retarded and the educational outcomes for these students.

Least Restrictive Environment

Regulations for both Public Law 93-112 and Public Law 94-142 require that to the extent possible, handicapped children are to be educated in the regular education environment. Section 504 directs that handicapped children are to be placed in the regular education environment unless it can be demonstrated that the education of the handicapped child with the use of supplementary aids and services cannot be achieved satisfactorily in the regular educational environment. Public Law 94-142 parallels Section 504's requirement by allowing the removal of handicapped children from the regular education environment only when the nature or severity of the handicap is such that education in regular classes even with supplementary aids and services cannot be achieved satisfactorily.

These provisions apply to students who have already been labeled as handicapped and have resulted in the enormous growth of mainstreaming programs. Within the context of this report, as recommended by the Panel on Selection and Placement of Students in Programs for the Mentally Retarded, the least restrictive environment principle is equally appropriate for children not yet labeled as handicapped. This suggests that before a child is recommended for special education placement, teachers and administrators must implement alternative educational strategies and demonstrate that such strategies did not help the child learn. Only then is it legitimate to assess the child for placement.

Panel on Selection and Placement of Students in Programs for the Mentally Retarded

The Panel on Selection and Placement of Students in Programs for the Mentally Retarded was formed to help the OCR (1) enhance its understanding of minority disproportion in special education and (2) formulate sound policies to protect minority children against possible discrimination associated with special class placement. In pursuit of these tasks, the Panel broadened its concern from specific actions or procedures that eliminate or reduce overrepresentation to the underlying conditions that make overrepresentation a problem. The Panel concluded:

> Two key issues are at the heart of the debate about disproportion. First, disproportion is a problem when children are invalidly assessed for placement in programs for educable mentally retarded children. Second, disproportion is a problem when children receive low quality instruction. This problem may arise in the regular classroom, where opportunities for academic success may be restricted, or in the special education classroom, where a child's educational progress may falter due to lowered or inappropriate expectations and goals. (Heller et al., 1982, xi).

Following a period of study and debate, the Panel proposed six "principles of responsibility" to guide school districts in their efforts to validly assess educational needs and provide "appropriate, high-quality services." The recommendations were consistent with existing laws and regulations and were already being practiced by some school districts. The section of the report that details the Panel's recommendations is reproduced below:

Each of the six principles listed below asks participants in the placement and educational process to demonstrate that an individual child needs special education services. Each also stipulates that improved educational outcomes should be the final criterion on which to judge all decisions.

1. It is the responsibility of teachers in the regular classroom to engage in multiple educational interventions and to note the effects of such interventions on a child experiencing academic failure before referring the child for special education assessment. It is the responsibility of school boards and administrators to ensure that needed alternative instructional resources are available.

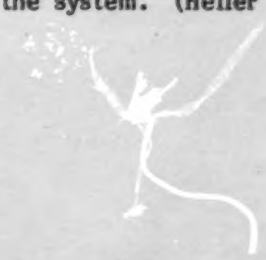
2. It is the responsibility of assessment specialists to demonstrate that the measures employed validly assess the functional needs of the individual child for which there are potentially effective interventions.

3. It is the responsibility of the placement team that labels and places a child in a special program to demonstrate that any differential label used is related to a distinctive prescription for educational practices and that these practices are likely to lead to improved outcomes not achievable in the regular classroom.

4. It is the responsibility of the special education and evaluation staff to demonstrate systematically that high-quality, effective special instruction is being provided and that the goals of the special education program could not be achieved as effectively within the regular classroom.

5. It is the responsibility of the special education staff to demonstrate, on at least an annual basis, that a child should remain in the special education class. A child should be retained in the special education class only after it has been demonstrated that he or she cannot meet specified educational objectives and that all efforts have been made to achieve these objectives.

6. It is the responsibility of administrators at the district, state, and national levels to monitor on a regular basis the pattern of special education placements, the rates for particular groups of children or particular schools and districts, and the types of instructional services offered to affirm that appropriate procedures are being followed or to redress inequities found in the system. (Heller et al., 1982, p. 94-95)



The Panel discussed each of the recommendations, indicated implications for implementation, and suggested research that needs to be done. The proposals are not radical; indeed, nothing new is recommended, yet individually and collectively, should the recommendations be implemented, the school's present way of operating would be greatly altered. For example, the Panel points out that recommendation one,

> . . shifts attention from presumed deficiencies in the child to possible contributors in the child's environment. The child who has been unable to learn under certain conditions of instruction in the regular program should not be judged as unable to learn under any conditions of regular instruction until a variety of such strategies has been attempted and demonstrated to be unsuccessful. (Heller et al., 1982, p. 95).

The Panel also stated two broader goals it considered to be "of special significance."

> First, the current categorization system, which includes a class of children labeled EMR, would gradually evolve into a system that emphasizes the functional educational needs of children experiencing learning difficulties. Second, the use of global IQ scores would be deemphasized in favor of techniques that link assessment more directly to the provision of educational services. (Heller et al., 1982, p. 93).

While the Panel provides the background and conceptual framework and its recommendations establish a direction, state education departments and school districts must translate the Panel's work into concrete programs and practices. This report is designed to help districts do that by describing existing practices that are in accord with the Panel's recommended principles. The examples provided here will not work everywhere but the practices that are described have worked somewhere and show promise of being effective elsewhere. Should these and other practices in accord with the recommended principles be implemented on a broad scale, it would appear that our schools' referral, assessment, and special education placement practices would be improved, and more students would receive an appropriate education in the least restrictive environment. We believe the adaptation of these practices on a broad scale would contribute greatly to reducing the overrepresentation of minority children in classes for Educable Mentally Retarded.

PROCEDURE NOTES

Regulations which implement Section 504 of the Rehabilitation Act (Public Law 93-112) require that, to the extent possible, handicapped children be educated in the regular education environment with non-handicapped children. The Panel on Selection and Placement of Students in Programs for the Mentally Retarded suggests that this principal applies equally well to children not yet labeled as handicapped and recommends that teachers and administrators exhaust all available educational strategies in the regular classroom before referring a child who is experiencing academic and/or behavioral problems for special education assessment and possible placement.

This project, therefore, has searched for alternative instructional practices that can be used within the regular classroom. While our concern has been for overrepresentation of minority children in special education classes for EMR students, we have not searched for exemplary programs for EMR students or been concerned that a program is demonstrably effective with EMR students. Instead our concern has been to locate and describe programs that are effective with students experiencing academic learning problems but who have not yet been referred and labeled. While there is every reason to believe that the programs and practices described here would be effective with EMR students, and, indeed, several programs (Peer Tutoring, Direct Instruction, IMPACT, and ECRI) have already demonstrated such effectiveness, in truth EMR students and special education programs are not objects of interest here. This project is concerned with regular class students and alternative regular education practices that will enable LEAs to retain students currently being placed in classes for Educable Mentally Retarded.

Since this project is concerned with overrepresentation of minority children in classes for EMR students, it has searched for practices and programs where minority students have been involved and data can point to effects for minority populations. Doing this has created two difficulties. First, just because this project sought minority data, it does not follow that the practices described in this report will work only with minority students, and second, searching for practices that have minority related data should not be interpreted to mean that for a practice to be potentially effective in programs that involve large numbers of minority students, the practice must have been developed with a given minority population in mind.

We highlight these points to protect against the mistaken inference that there are uniquely minority and non-minority interventions. (This is similar to the history of special education programming, which developed under the assumption that there are distinctly different interventions for various mildly handicapped categories like EMR and learning disabled. Current evidence calls this into question. There appear to be no effective interventions unique to various categories, and there is evidence that a set of methods is effective across the major mildly handicapped categories.) On the evidence that we have seen, this is simply untrue. Instead, there appears to be a set of direct instruction treatments that may benefit all children, minority and non-minority alike.

Referral Rate Data

Does effective instruction result in fewer minority students being referred for special education placement? Do various instructional programs demonstrate different effects on minority referral rates? Most places, it appears, have not kept data to examine such trends. School districts and programs keep achievement data, and a number of programs that we visited can point to very positive achievement gains associated with various interventions. Since such data support the reason for instituting the intervention in the first place, there has been little or no need to collect referral rate data.

The absence of such data weakens the case for the approach taken here, and for recommending given practices as an effective means for reducing disproportion. But it is not a fatal weakness. Achievement gains have been rigorously documented, and until referral rate research is undertaken it is sufficient to agree that when students are achieving academically and being successful learners, their teachers are not as likely to feel the need for help or to refer them for special class placement.

HISTORY OF THE PROJECT

1978 - 1982 OCR Biannual Surveys reveal patterns of overrepresentation of minority children in special education programs for educable mentally retarded students.

1979 OCR sought guidance from the National Research Council of the National Academy of Sciences.

1980 The Panel on Selection and Placement of Students in Programs for the Mentally Retarded was established to study disproportion and make recommendations. The panel concluded that disproportion was a problem when children were invalidly assessed for placement in special education programs and when children received low-quality education. Six "principles of responsibility" were recommended to ensure valid assessment and high quality programs.

1982 OCR organized a contract to provide Technical Assistance to Local Education Agencies (LEAs) and State Education Agencies (SEAs) on the Overrepresentation of Black Students in Special Education Classes for the Educable Mentally Retarded.

- To identify alternative educational strategies and alternative evaluation and assessment strategies.
- To disseminate information about alternative practices to LEAs and SEAs.

ALTERNATIVE EDUCATIONAL PRACTICES

In keeping with the emphasis of the project proposal and the recommendations of the Panel on Selection and Placement of Students in Programs for the Mentally Retarded, we have identified six separate practices which appear to be effective in improving the academic performance of children who are at risk for referral for special education services. For the most part, these practices are applicable to regular classroom settings. In addition, each type of practice has been used with success in a variety of settings and with a diversity of minority populations.

The rationale behind emphasizing alternative educational practices is that if they can be implemented successfully, and the child makes adequate progress, then referral for special services may not be necessary. In addition, if these practices are described in sufficient detail, then they can be replicated and serve as effective instructional practices for special education students being returned to regular classes as part of an Local Education Agency's declassification program.

The six practices identified are:

Direct Instruction With DISTAR

Exemplary Center for Reading Instruction (ECRI)

Precision Teaching

Peer Tutoring

Adaptive Learning Environment Model (ALEM)

Computer Assisted Instruction (CAI)

TYPE OF PRACTICE

Alternative Instructional

NAME OF PROGRAM

Direct Instruction With DISTAR

DESCRIPTION OF PROGRAM

For many years now, educational researchers have tried to identify specific educational variables that improve the academic performance of children that traditionally experience academic difficulty. These students typically include poor Black, Hispanic, American Indian, and White students. Initially, researchers were concerned almost exclusively with examining specific teacher characteristics and/or variables such as warmth, enthusiasm, and empathy to determine if and how they were related to academic growth in basic skill areas. Unfortunately, this line of investigation did not prove fruitful (Rosenshine & Berliner, 1978). More recently, researchers have shifted their attention to specific student variables such as a student's "opportunity to learn" content and the extent of student involvement with the content. Collectively, these two variables have come to be known as academic engaged time (AET). Numerous investigations of AET have repeatedly revealed the same finding; i.e., increases in academic engaged time are significantly correlated with improved test performance on criterion measures. Essentially, this means that students who spend more time directly engaged in reading, math or spelling tasks will outperform peers who spend less time engaged in similar activities. The implications of these findings for practitioners are in no way startling. They merely suggest that if teachers want their low achieving students to improve their performance in basic skills, then they must get them to spend significantly more time performing the desired behavior, e.g., reading, computing, etc. Furthermore, if their ultimate goal is to help these students "catch up" with their peers, then they must get the students to cover more material in a shorter period of time. Such a task is much more easily said than done.

One system that offers a plausible solution is Direct Instruction. The term "Direct Instruction", is used to refer to activities and settings designed to systematically move students through a sequenced set of academic materials (i.e. reading and math). More specifically, direct instruction refers to a set of teaching behaviors focused on academic tasks having clearly specified goals; time allocated for instruction is sufficient and continuous; content coverage is extensive; student responding is rapid and at a high frequency; and feedback to the student is immediate and academically oriented (Rosenshine & Berliner, 1978). In Direct Instruction programs, the teacher controls instructional goals, selects material appropriate for students' ability levels, and paces the instructional episodes.

Perhaps the most widely-known Direct Instruction program is DISTAR. DISTAR programs in language, reading and math are commercially available through Science Research Associates, Inc. In addition to the program characteristics noted above, DISTAR incorporates the following features: (a) emphasis on small group instruction as opposed to students working independently, (b) systematic correction procedures, (c) principles for cumulative review of previously learned material, and (d) insistence on mastery of each step in the learning process.

In a typical DISTAR program, one will find a minimum of three instructional groups. Detailed Teacher Preparation Books provide classroom instructors with specific information on how a lesson must be taught. This information is written in the form of a script and provides an easy-to-follow format. More importantly, the content of DISTAR materials has been carefully scrutinized to ensure that: (1) concepts are clearly presented, (2) tasks are developmentally sequenced, (3) errors are systematically corrected, and (4) requisite skills are learned to mastery. DISTAR instruction usually takes place in small groups (8-10 students), moves at a rapid presentation pace, and frequently involves choral responding. DISTAR lessons can be easily incorporated into a regular classroom to take the place of traditional reading and/or math groups.

EVIDENCE OF EFFECTIVENESS

Perhaps the "true" test of any alternative educational practice is its ability to improve the academic performance of students who traditionally experience problems in acquiring basic skills. Throughout the late 1960's and early 1970's, the United States Office of Education (USOE) funded a massive research study designed to evaluate the effectiveness of a variety of instructional approaches in improving the achievement scores of low income children. Results from this Follow Through Project indicated that the Direct Instruction Model (DISTAR) was substantially more successful in raising achievement levels than any of the other programs studied. Furthermore, the DISTAR system was much more successful in raising student self-esteem, self-confidence, and sense of responsibility.

Additional support for DISTAR programs can be found in the special education literature. A recent review by Gersten (1982) concluded that a large number of experimental studies have shown that, "Direct Instruction reading and language programs consistently produce higher academic gains than traditional approaches in both mainstreamed and self-contained classes, and across a range of handicapping conditions." Empirical evidence supports the effectiveness of DISTAR programs. In Mount Vernon, New York, administrators report that there has been a steady decline in the number of students assessed below minimal competency. Houston Independent School District reported significant improvements on Iowa Test of Basic Skills scores following DISTAR instruction. It is particularly noteworthy that the average achievement levels of their minority children following three years of DISTAR, were slightly above national norms. In North Highlands, California, district officials reported that before using DISTAR programs, 23 percent of their first graders were below the national median in reading. However, after only two years in DISTAR, the percentage of students scoring below the median, fell to 4.3 percent.

Additional support for DISTAR came on recent field site visits. In San Diego Unified School District, for example, a primary objective was set that by the end of grade two, students with continuous participation in DISTAR programs since entering kindergarten would, on the average, be performing at or above the national average. A recent report (1982) notes that at grade two the objective was attained in all subject areas, i.e., reading, math, and language. In addition to improving basic academic performance, district personnel report that students in DISTAR classrooms are referred and placed in special education programs at approximately one-half the rate of those in traditional classrooms.

APPLICABILITY TO LOCAL EDUCATION AGENCIES

As noted earlier, DISTAR can be easily integrated into existing regular and/or special education programs. However, in-service training is crucial to its effective implementation. Such training provides users with appropriate strategies for pacing daily lessons. It is a skill that typically improves with time. In the absence of appropriate training, DISTAR can become quite boring and aversive to the classroom teacher. However, inappropriate implementation of DISTAR should not serve as the basis for evaluating its effectiveness. When utilized appropriately, DISTAR programs do improve academic performance and they are typically enjoyed by teachers and students.

In Addition, for DISTAR to be utilized effectively there must be strong administrative support, ongoing staff development and training programs, and positive reinforcement to encourage teachers to use DISTAR. When asked about possible limitations to using DISTAR, Local Education Agency personnel cited the initial financial costs of implementing the program, as well as the ongoing maintenance costs as a major concern. In addition, they noted the need for one or two teaching assistants per classroom (grades K-2) to really make the program effective.

DISTAR has proven an effective educational tool in many school districts. Of particular note are the many DISTAR programs that have achieved success in school districts with large minority student populations. Among these are Houston Independent School District (Houston, Texas), Cherokee Follow Through (Cherokee, North Carolina), Orange County Public Schools (Orlando, Florida) and San Diego Public Schools (San Diego, California). Referral rates to special education in the San Diego School System for classrooms using Direct Instruction have been cut in half since Direct Instruction was initiated there. It is important to note that our assumption is that alternative regular education programs that result in significant gains in academic achievement by minority children will also result in lower rates of referral and placement in EMR classes of this population and a consequent reduction in minority overrepresentation. However obvious this connection may seem, it cannot be verified until rigorous testing of this hypothesis and subsequent validation via hard data have been executed. Nevertheless, the limited data available and professional testimony strongly indicate that a program such as Direct Instruction does effectively address the educational needs of minority students experiencing academic difficulty, and improves academic performance significantly enough to show promise of reducing referral and placement rates for minority students who have historically been at greatest risk for categorization. As such Direct Instruction is indicated as a means of reducing the problem of minority overrepresentation in classes for Educable Mentally Retarded.

REFERENCES

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TYPE OF PRACTICE

Alternative Instructional

NAME OF PROGRAM

Exemplary Center for Reading Instruction (ECRI)

DESCRIPTION OF PROGRAM

The Exemplary Center for Reading Instruction (ECRI) was funded in the mid-1960's with money from the United States Office of Education. ECRI is a developed demonstration project to instruct teachers on how to use classroom time more effectively and efficiently. ECRI focuses primarily upon individualized instruction techniques and positive reinforcement. More specifically, teachers are taught how to: (1) elicit correct responses from non-responding pupils, (2) establish mastery levels of responses with performance and rate as criteria, (3) provide time for supervised practice, (4) correlate language arts activities to facilitate accurate responding, (5) use effective management and monitoring systems, and (6) diagnose and intervene immediately when errors or no responses occur.

Essentially, ECRI is a total language arts instructional program. It provides instruction simultaneously in reading, oral language, spelling, comprehension and other activities in a structured, systematic pattern that ensures mastery. ECRI students learn to read each word, spell it, write it, understand its meaning and use it in a sentence as they encounter it in reading exercises.

ECRI shares many of the instructional features previously identified by Rosenshine & Berliner (1978) as being characteristic of effective instructional practices. That is, ECRI classrooms are teacher-directed. Indeed, in these programs the teacher selects the materials to be provided for students, and then directly elicits student responses to these tasks. Incorrect responses are immediately corrected while appropriate responses are positively reinforced. A second characteristic of effective instruction practices is that instruction takes place in small groups. In ECRI classrooms, the teacher typically works with three instructional groups in all areas of language arts. Following specific teacher directives, students are taught to respond individually and in unison to presented material. Presentation and response rates are quite rapid, and keep students directly involved with the task at hand. Rosenshine & Berliner's third characteristic of effective instruction is that it is academically focused, i.e., students are directly involved in performing the task of interest. This is a hallmark of ECRI instruction. Pupils in these classrooms spend most, if not all, of their work time directly performing functional skills. For example, students learn to say, read, write, spell and proof all new vocabulary words as they are introduced. Finally, Rosenshine & Berliner note that effective instructional practices are characterized by individualization. This does not, however, refer to the instructional arrangement of one to one instruction. Instead, it refers to the individualization of learning objectives. For example, if the objective is to teach consonant blends, then all students needing assistance in this area are grouped for instruction. Once again, ECRI classrooms meet this criteria. In these programs, students are initially placed with instructional materials based upon their performance during informal reading assessments. Following initial placement, students move through the curricular materials as quickly as they reach mastery on assigned tasks. Mastery

typically means being able to correctly read lists of words at a rate of one per second and correctly spell each word with 100 percent accuracy when dictated by the teacher. Since instruction is individualized, students progress independently of other pupils in the classroom.

Additional programmatic features of ECRI are also noteworthy. Because of the rapid presentation format, the heavy emphasis upon student responding, the highly structured nature of the teacher directives, and the reliance upon positive reinforcement for task engagement, ECRI students spend a substantial portion of their school day being on-task. Traditional problems with classroom discipline are negligible. Another positive feature of ECRI classrooms is their ability to teach students to work independently and constructively. Detailed practice time worksheets informed students of exactly what they should be doing to prepare for the mastery tests. Again, classroom observations verified that ECRI students spend much of their independent time directly engaged in functional academic tasks.

EVIDENCE OF EFFECTIVENESS

The original ECRI project was validated over a three year period (1971-1974) with more than 700 pupils in four Utah school districts. First graders were reading at a 3.8 grade level; second graders averaged 95th to 99th percentile; clinic pupils averaged four months gain per month; Title I pupils averaged 1.4 to 3.2 years gain per year. Additional support for ECRI programs comes from a more recent investigation (Bayman, 1979) in which ECRI programs significantly improved the standard reading test performance of Navajo students in three elementary schools. In fact, with the exception of one group, every class of fourth through seventh graders using ECRI, met and/or exceeded expected growth levels. More recently, Linn (1980), reported results from the district's Comprehensive Test of Basic Skills (CTBS) assessment. These findings indicated that scores for students enrolled in ECRI classrooms for five years were all above grade level in total reading. In fact, the lowest scoring child performed one and one-half years above grade level. In addition, the principal noted that the previous year's sixth graders averaged only 8 percent of the student body working below the 50th percentile. More impressive is that only seven students (2 percent) were more than one year below grade level. This was accomplished in a school district with a large percentage of students.

At the Franklin-McKinley School District in San Jose, California, the Director of Instruction reported similar significant gains in academic achievement. Franklin-McKinley is a large, urban school district with 78 percent minority students (41.4 percent Hispanic, 21.2 percent Asian, 11.4 percent Black, 3.2 percent Filipino and .4 percent American Indian). ECRI is currently employed in approximately 50 elementary classrooms in this district. Yearly achievement data indicate that ECRI has been successful in generating one year or more gain in academic achievement for each year a student was enrolled in the ECRI program. Similar success was reported by administrators and teachers of the Santa Ana Unified School District located about 35 miles south of Los Angeles. This school district has over 30,000 students. Approximately 82 percent are minorities, Hispanic (65.1 percent), Black (5 percent) and Asian (11.4 percent).

In addition to objective data, ECRI's effectiveness has received the testimonial support of all teachers and administrators contacted during this project. Principals remark about a "new sense of dedication" among their teachers following inservice training in ECRI. Similarly, teachers report renewed self-confidence in their ability to

instruct all types of students and an increased motivation to get even better. Another facet of the program is its effective ability to be maintained over time. During this project, we contacted a number of Local Education Agencies currently using ECRI, and found that, for the most part, ECRI was being utilized on a voluntary basis. These Local Education Agencies reported consistent increases in teacher volunteers through the years with only a negligible drop out rate.

APPLICABILITY TO LOCAL EDUCATION AGENCIES

At present, ECRI offers a variety of teacher-training activities for Local Education Agencies. Five to ten day preparatory inservice education programs with one ECRI staff person for 20 - 25 trainees are available at a cost of approximately $225.00 per day plus expenses. These programs include lecture and practice sessions, preparation of materials for classroom use, and teaching pupils in simulated settings. Following this, periodic visits by ECRI staff to trainees' classrooms to demonstrate, model and monitor are desirable. Many Local Education Agencies have their own model ECRI teachers. These district personnel have typically received numerous inservice training experiences with ECRI teachers in Salt Lake City and have demonstrated proficiency in their ability to use ECRI procedures. Within Local Education Agencies, these individuals usually function as resource teachers and aid in, (1) modeling ECRI instruction for other teachers, (2) establishing new ECRI classrooms, and (3) monitoring ongoing progress of other ECRI teachers.

Once inservice training is completed, Local Education Agencies can immediately integrate ECRI procedures into their existing language arts program. The techniques can be applied with existing classroom materials and do not require a modification of school organizational patterns.

Recent discussions with Local Education Agency representatives suggest that ongoing maintenance costs of ECRI are nominal, requiring approximately $90 - $100 per classroom each school year. Should Local Education Agencies choose to do their own inservice training, then ECRI will supply (at a modest cost) self-instructional training workbooks.

In summary, ECRI is a highly structured, totally integrated language arts program that has been approved by Joint Dissemination Review Panel for teachers of students of all abilities and grade levels. It has been used successfully with a diverse group of students including low income, minority groups. Administrators and teachers presently using ECRI are highly supportive of this practice and note increased utilization of ECRI throughout their district.

Data that indicates a clear pattern of minority overrepresentation in special education also identifies precisely the population from which these referrals and placements are most likely to be chosen - minority students with academic difficulties. Regular education programs which result in this population achieving significant academic gains relative to national norms and non-minority students may contribute to a reduction of these referral and placement rates; first, by the simple expedient of addressing the specific educational needs of students experiencing academic difficulty (and consequently moving out of traditionally "at-risk" populations via improved academic performance) and second, by contributing to the development of a theoretical model that more efficaciously and accurately identifies sources and solutions of minority over-representation in EMR classes.

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TYPE OF PRACTICE

Alternative Instructional

NAME OF PROGRAM

Precision Teaching

DESCRIPTION OF PROGRAM

Precision Teaching (PT) is a set of measurement procedures that guide teachers and students in making better educational decisions. It is not necessarily a method of teaching, but rather a way to plan, use and analyze any teaching technique or method. Precision Teaching can be used to monitor ongoing student performance in basic academic skills i.e., reading, math and spelling, as well as for making curricular decisions about existing instructional practices. Precision Teaching requires the direct and daily measurement of academic performance. Measurement is direct in the sense that student performance is measured directly from the current curriculum and not from results obtained on standardized tests. Daily measurement consists of one-minute timings and charting of academic performance in each basic skill area. Such data provide formative evaluation information regarding individual student performance in basic skill areas, and allow teachers to make data-based educational decisions. For example, if student performance data indicate increasing daily accuracy rates with a concurrent decrease in errors in basic math computation skills, then the teacher can conclude that the child is making adequate progress toward the specified instructional objective. Therefore, current instructional practices should be continued. If, however, daily performance data reveal: (a) no improvements and/or decreases in ongoing accuracy rates, or (b) escalating error rates, then existing instructional practices must be modified. In essence, Precision Teaching provides the classroom teacher with: (a) a precise means of describing academic behavior, (b) a unique recording and charting procedure, (c) a set of techniques for interpreting and applying decision rules from charted data, and (d) a bank of practice sheets that is designed to complement and reinforce the classroom teacher's current curriculum objectives. The student, by the same token is provided with the daily opportunity to: (a) practice basic skills i.e., reading, math and spelling at high levels of performance, (b) maintain a charted record of daily progress, (c) progress through the curriculum at an individual pace and (d) assist the teacher in making curricular decisions.

Initially, Precision Teaching procedures were developed to assist students with basic academic skill deficits. In recent years, however, it has been utilized as a preventive measure with students deemed to be "at risk" for possible special education placement.

Within the past fifteen years, Precision Teaching techniques have been successfully applied to students in both regular and special education programs in grades K-12. One of the major training sources for Precision Teaching is the Precision Teaching Project located in Great Falls, Montana. Two basic types of training, on-site and off-site, are available. On-site training involves three days of lecture, demonstration, observation and practicum. Upon completion of the training sequence, each person has access to approximately 10,000 one-minute curriculum practice sheets located in the Precision Teaching Materials Banks.

Off-site training essentially falls into one of three categories: (a) follow-up consultation to those groups trained through the three-day, on-site program, (b) awareness sessions designed to acquaint participants with goals, objectives and activities of Precision Teaching, and (c) three-day intensive training provided by project staff.

Following inservice training, Precision Teaching can be introduced immediately into the classroom setting. Typically, one to three one-minute timings are conducted daily. In the areas of math computation and spelling, timings are administered on a group basis. The teacher gives students a cue to complete as many items as possible on their practice sheets in one minute. When time limits elapse, students are instructed to record their accuracy and error rates. These data are then graphed and the student and teacher can immediately evaluate the child's performance against prior response rates. Daily timings in the area of reading must be given individually and will, therefore, be more time consuming.

The purpose of daily, one-minute timings is primarily to build the frequency of the target behavior, e.g. two-digit addition with carrying, to a level of proficiency. Once proficiency has been demonstrated over a predetermined number of days, the child moves to the next developmentally-sequenced practice sheets. Such criteria require the demonstration of prerequisite mastery learning prior to practice with more difficult academic tasks.

EVIDENCE OF EFFECTIVENESS

The Precision Teaching Project of Great Falls, Montana has demonstrated on two occasions before the former U.S. Office of Education the efficacy of its model. In 1975, as a special education oriented program, Precision Teaching was validated and approved for national dissemination. In order to collect longitudinal data on the project's effects, the Precision Teaching Project conducted a follow-up study on special education students identified and remediated three years earlier. The investigation revealed that there were minimal washout effects as measured by standardized achievement tests, classroom performance and teacher judgments. Within the past four years, Precision Teaching has received validation and approval for use in regular classrooms to teach elementary students basic academic skills.

Data that specifically indicate improved academic achievement for low-achieving and/or minority students are not currently available. However, available data do document overall gains in achievement for programs with significant minority student populations, and school personnel are confident that when data are available they will document low-achieving and/or minority student gains as consistent with presently available statistical validation of improved academic performance for student populations using Precision Teaching.

One study that indicates these gains was conducted in Great Falls, Montana. It compared a control school (not using Precision Teaching) and an experimental school (which did use it). The control school population was 327 and the experimental school population was 316. Each school had a minority student population of approximately 9 percent. Student scores on the California Achievement Test were compared. Average scores for the control group were (1) math - 4.3 percent; (2) spelling - 4.8 percent; and (3) reading - 5.4 percent. Experimental group scores were (1) math - 5.0 percent; (2) spelling - 5.3 percent; and (3) reading - 6.[illegible] percent.

Another report conducted in Great Falls also substantiates these gains. This report, conducted between 1974 and 1977 investigated student achievement at the fourth grade level using the Iowa Test of Basic Skills. It compared two groups of children in the fourth grade who had received no instruction with Precision Teaching (1974); with two groups of children also in the fourth grade, when the experimental group had received Precision Teaching instruction from the first grade and the control group had continued to be instructed with traditional methods. In each group studied minority students comprised approximately 10 percent of the total group population. Comparisons for the 1974 groups show the experimental group averaging scores at 73 percentile for reading, 72 percentile for spelling, and 66 percentile for math. Control group scores were comparable with students scoring at the 71 percentile (reading), 65 percentile (spelling) and 65 percentile (math).

However, 1977 figures record experimental (Precision Teaching) group scores at the 97 percentile (reading), 87 percentile (spelling) and 88 percentile (math) compared with control group (no Precision Teaching) scores at the 71 percentile (reading), 65 percentile (spelling) and 65 percentile (math).

As previously noted, preliminary indications from research and school personnel suggest that as data are collected they will verify that these strikingly significant gains in academic achievement will be found to be consistent for low-achieving and/or minority students tested in these studies and generalizable to low-achieving and minority student populations instructed with Precision Teaching methods in other programs.

An additional procedure for evaluating program effectiveness is through classroom observations and interviews with teachers and students. Recent field site visits (1983) revealed that Precision Teaching was quite popular among those using it. Maximal effort was put forth by students during their daily timings, and they appeared to be quite motivated to "beat their previous day's performance." Informal observation of charted data in three classrooms revealed that close to 90 percent of all students had, in fact, improved their academic performance. Classroom teachers also spoke highly of Precision Teaching. They reported dramatic improvement in their students' basic skills since using Precision Teaching. They further noted that it was an excellent motivator and that their students became upset when daily timings were not given. Building administrators were also pleased with the effects of Precision Teaching. Most principals reported that Precision Teaching fit well into the regular curriculum without any major modifications.

Finally, it should be noted that Precision Teaching appears to be a feasible alternative for maintaining students with academic and/or behavioral difficulties within regular classroom settings. In a number of field site visits, teachers were interviewed about the performance of "mainstreamed" special education students in their classrooms. In all instances, teachers reported that the procedure worked quite well. The general reaction was that students took a little longer to reach their aims, but in all cases they showed continuous progress. Precision Teaching was also observed in three special education classrooms for the remediation of basic skill deficits. Once again, teachers were unanimous in their support of Precision Teaching, citing improvements in academic performance and student attitudes toward school as its biggest accomplishments.

APPLICABILITY TO LOCAL EDUCATION AGENCIES

Precision Teaching is a set of measurement procedures that guide the educational decision-making of teachers and students. Through the use of daily, one-minute timing drills, students practice basic academic tasks geared to their individual learning needs. Daily performance rates are charted and teachers and students can make immediate judgements concerning the extent of their progress. Students are required to reach predetermined levels of proficiency prior to engaging in more difficult academic tasks. In terms of effectiveness, Precision Teaching has been successfully verified through the Joint Dissemination Review Panel procedure with special education populations. In addition, recent reports suggest that Precision Teaching has equal impact with primary students in regular classrooms. One of the interesting findings in this study was that socioeconomic status had no effect on test results. That is, students receiving Precision Teaching consistently improved regardless of the child's socio-economic status. In addition to empirical evidence, Precision Teaching has received the testimonial support of both students and faculty. Students are encouraged by high daily success rates and the motivation of "beating their own scores." Teachers like it because it is relatively inexpensive and not very time-consuming. But above all, they like it because it works.

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TYPE OF PRACTICE

Alternative Instructional

NAME OF PROGRAM

Peer Tutoring

DESCRIPTION OF PROGRAM

Juniper Gardens is in the inner city of Kansas City, Kansas, and most of the people who live and go to school there are poor and black. Juniper Garden's schools, like so many other inner city schools, had a high incidence of academic failure. For many years the Kansas City schools and the University of Kansas have been cooperating on an extensive program designed to prevent and remediate that failure. As a part of that effort the Juniper Gardens Children's Project has been working since 1977 to discover "functional variables" which affect students' performance and then, based on their findings and allied theoretical work, to develop and field test an instructional technology which will help children become more successful in school.

Peer Tutoring, the activity described here, is one of several task formats developed by the project. They have demonstrated that a straight forward, inexpensive intervention can result in significant academic gains for low achievement minority students.

Peer Tutoring may best be described as an activity, and as such it can fit into a broad range of settings and programs. No district-wide or even school-wide action is required to implement the activity. It can be used in existing classrooms with existing materials. That is how it is offered here, as one of several possible activities that nearly any teacher can use as an alternative educational intervention likely to have a positive influence on minority, low achieving students' academic achievement and thereby reduce the likelihood that such students will be referred for special class placement.

While this description of the Peer Tutoring program will deal with its application in oral reading, the procedure, with minor modifications, can be used readily in other skill content areas. In this example, students are paired and rotate reading to each other for 10 minutes each day. As the tutors listen, they identify and correct errors and give points to the reader for correct reading. The teacher monitors the class-wide process, awards bonus points to tutors for good tutoring and if needed answers tutee questions. The major characteristics of the procedure are:

1. All students in the classroom have the opportunity to engage in academic behavior.
2. Errors are immediately corrected and correct responses are made.
3. Sufficient response opportunities are provided for, and correct responses are obtained from students to indicate mastery of instructional objectives.
4. Responses required during instruction are directly related to the responses to be tested for mastery.
5. The teacher uses the procedure on a daily basis.
6. Student satisfaction with the procedures enables frequent, continued use of them.

Student procedures involve the following elements: (a) weekly competing teams, (b) tutor-tutee pairs within teams, (c) point earning for oral reading, (d) a modeling error correction procedure, (e) teacher mediated point earning for correct tutor behavior, (f) switching of tutor-tutee roles at midsession, (g) daily tabulation of point totals and public posting on a game chart, (h) selection of a winning team for each day and week, and (i) regular teacher assessment of students' oral reading rates independent of tutoring sessions on Friday.

Every Friday the teacher has each child read a two minute sample from the week's tutored passages. The teacher records correct and incorrect words and the time. Comprehension questions are asked and scored. These data are graphed for each student. The graphs are posted, occasionally pointed out to the students, and become the major evaluation data for the program.

All students in the classroom are trained to use the procedure over a two day period. During the first day: (a) the teacher reviews the program and describes the tutoring procedure; (b) a consultant and the teacher indicate errors and role play the error correction procedure; (c) the teacher demonstrates how tutors are to award points and how the points are recorded and tabulated on a student point sheet; (d) the students practice tabulating their points and reporting their score to the teacher. During the second day: (a) the teacher reviews the previous day's activities; (b) the teacher and consultant observe the students practicing the tutoring procedure; (c) they provide feedback to students concerning the identification of errors, use of the correction procedure, praising correct reading, and tabulating points accurately. If the teacher is satisfied, training stops; if not, an additional day will be spent practicing.

During the tutoring sessions the teacher: (a) determines tutoring pairs; (b) times the 10 minute sessions; (c) monitors tutoring by moving among and observing the students and awarding points for correct tutoring; (d) answers questions when needed; and (e) tabulates and posts session points. After each session, the teacher (f) reviews a random sample of point sheets to assess student accuracy and honesty; and (g) assesses oral reading progress on Fridays.

RESOURCES NEEDED

As the discussion makes evident, no particular resources, equipment, or expensive materials are required. However, teacher training is necessary to implement Peer Tutoring effectively.

EVIDENCE OF EFFECTIVENESS

Peer Tutoring has been used effectively with minority educable mentally retarded students, with other mildly handicapped minority students and Educable Mentally Retarded and with students in compensatory education classes. A number of studies have investigated the peer tutoring program. One such study examined 12 students in a learning disabilities classroom located in an inner-city school. Results demonstrated substantial gains in academic behavior and in reading performance. Academic responding increased from 39 percent of the time during baseline to 68 percent during tutoring, dropped to 35 percent in the second baseline without tutoring, and increased again to 73 percent of the time during the last tutoring phase. During both tutoring phases students doubled their normal correct reading rates (and halved their error rates).

Another study compared Peer Tutoring in spelling to no instruction and to instruction using low opportunity to respond techniques. The subjects were inner city fourth graders. During the baseline (or no instruction) phase students were tested. The majority of the students could already spell the words, but the four lowest students averaged 54 percent on two tests during this phase. In the low opportunity instructional phase the lows raised their spelling scores to 75 percent and the rest remained unchanged at 83 percent. Both groups improved during the Peer Tutoring phase; the low's average score rose to 94 percent and the others increased to 92 percent. Additional analyses of these data showed that teacher/student discussion was associated with student attention and that both discussion and student attention were negatively related to low spelling test scores. In contrast, paper and pencil tasks were positively associated with academic talk and the Friday spelling scores. The point is that the instructional tasks used showed a strong relationship to the elicited student behaviors and success in spelling. (Greenwood, et al, 1983, p. 33).

An experimental study presently underway compares class-wide Peer Tutoring with a regular instructional program and parent tutoring at home. Four teachers, 20 parents, and 55 students in inner-city schools, grades 3-6, are involved. Fifty-two percent of the students are minority. While the study, which is in progress, has yet to demonstrate significant differences in standardized test achievement, already the academic responding rates of students is significantly greater in the Peer Tutoring group, and this change is associated with reduced errors in reading checks made by the teacher (p. 41).

These results, Greenwood and his colleagues state, demonstrate the importance of how teachers arrange instruction, ". . .the remediation of low achievement can benefit from instructional practices that provide high opportunity to respond, as students will gain more in the limited span of school time available to teach them, than will the same students in lower opportunity instructional settings" (Greenwood, et al, 1982, p. 45).

APPLICABILITY TO LOCAL EDUCATION AGENCIES

Perhaps the greatest limitation of the technique lies in its apparent simplicity. The procedure is more complex than it appears on the surface. Monitoring skills, for example, are important and so too is the error correction procedure and being certain that tutors implement it correctly. Moreover, ten minutes of peer tutoring a day may very well help students, but by itself, peer tutoring will not solve all our instructional problems and shortcomings. As the authors make clear, the technique does not stand independent of a whole range of other instructional task arrangements and conditions that foster high opportunity to respond, and it needs to be implemented within a framework of generally excellent teaching practices.

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TYPE OF PRACTICE

Alternative Instructional

NAME OF PROGRAM

Adaptive Learning Environment Model (Redefinition of Roles)

DESCRIPTION OF PROGRAM

The Learning Research and Development Center of the University of Pittsburgh developed and field tested the Adaptive Learning Environments Model (ALEM) as an educational program whose goal is ". . .to provide effective educational services for all (or nearly all) students in a common school setting." (Reynolds and Wang, 1983, p. 203). To accomplish this goal, ALEM's many components have been developed upon one principle:

> . . .to increase the capability of school-building personnel to modify any handicapping condition in the learning environment that might hamper the staff's effectiveness in meeting the learning needs of individual students and, at the same time, to focus on the development of each student's capability to benefit from the learning environment. (p. 204.)

ALEM, which is based on a systems approach to program development, has three basic elements and five major program components. The three basic elements are: (a) classroom teachers are responsible for adapting learning environments to the individual needs of all students; (b) special and compensatory education personnel provide technical support for classroom teachers; and (c) student's individual differences are described in terms directly related to instruction. This last feature means that the standard categorical labeling system is not required in order to receive special intervention programs.

The three basic elements are operationalized in five major components. They are:

> (a) a basic skills constituent that includes various highly structured and hierarchically organized prescriptive curricula, and a range of open-ended exploratory learning activities that increase the school's capability to adapt to any student's individual learning needs and interests; (b) an instructional-learning management system that is designed to maximize the use of available classroom and school resources (e.g., curricular supports and students' and teachers' time); (c) a family participation program that is aimed at optimizing student learning through increased communication between school and home and the integration of school and home learning experiences; (d) a multi-age grouping and instructional-teaming classroom organizational support system that is designed to increase the flexible use of teacher and student talents, time, and other school resources; and (e) a systematic approach to staff development that enhances the capability of staff members to carry out the program effectively in regular classroom settings. (p. 204.)

Redefinition Of Roles

The ALEM program will not be described in detail here. References which detail operational characteristics and specific applications are listed at the end of this case study. Individuals interested in acquiring further information about how the program functions operationally are directed to those resources and to the Learning Research and Development Center at the University of Pittsburgh.

Instead of focusing on the particular operational features of this practice, this discussion will address a broader issue; the redefinition of roles implicit in the ALEM program. The change in focus is undertaken for two reasons. First, change is a complex undertaking that goes well beyond the limits of the brief case studies included here. The following discussion of redefining roles recognizes this by responding to one of many possible implications of innovation. The second and more basic reason for the change in focus is to highlight the broader issue of restructuring the schools as a precondition to the overall improvement of education and an effective solution to the overrepresentation of black and other minority children in classes for students labeled educable mentally retarded.

Reynolds and Wang state that in order to be successful, special and compensatory education programs need to be restructured. They suggest an alternative approach that combines four major features: (a) a unified funding and accountability system; (b) an adaptive, comprehensive educational program; (c) effective demonstration, and (d) the redefinition of roles. Elements of the four features can be found in various states and school districts so what Reynolds and Wang recommend is not strictly new, but the recommended four-fold program has not existed in its entirety and none of the features have been studied extensively. Thus, what Reynolds and Wang have recommended is conceptualized here as a potentially effective practice that can provide the foundation for effective change. Instead of treating each of the four features, this discussion deals only with redefinition of roles.

Reynolds and Wang propose a five level model of roles that need to be in place in order for the diverse needs of all students to be accomodated within a single classroom. Regular classroom teachers who are directly engaged with children and parents are the first level. At the second level are the technical and administrative personnel who support regular classroom teachers' efforts to teach all exceptional students within the regular classroom. Included are today's special educators as well as all other individuals who supply compensatory services for any given population. Children would not be labeled according to traditional categories but would be provided services according to their educational needs via a carefully developed, unified system of adaptive education.

As more children who pose complex problems are served within the regular classroom, both level one and level two personnel would require back up or special help. This would be provided by district-wide consultants who would have highly specialized expertise in areas such as behavior management, learning problems, or parent education and who would be available for help without recourse to categories.

The fourth and fifth level personnel are not employed directly by districts. The fourth level personnel are college and university professors who prepare teachers, and the fifth level are the research and development professionals. These two levels are charged with improving practices and enlarging understanding.

Reynolds and Wang claim that the redefinition of roles they proposed ". . .turns the current structure of schools on its head. . ." and requires ". . .radical changes in the training, deployment, and certification of school personnel." For example, regular education, special education, and all forms of compensatory education would be unified and given back up support by different specialists. Bringing this about would be a long and arduous task. Renegotiation of contracts would be involved. Suspicion and competition between various professional areas would have to be overcome. Retraining would require an extensive amount of inservice time.

All of these, and more, are potentially involved in making changes like those proposed in this report, and they are reason for concern. On the other hand are potential benefits to students. Ultimately, choices must be made, and they must be made with a clear picture of what is likely to be involved.

RESOURCES NEEDED

ALEM is generally cost effective with a variety of analyses showing costs to be "at least equal to, if not less than, the district's basic education budget per student."

EVIDENCE OF EFFECTIVENESS

The model has been refined and field-tested for over 10 years and to date over 130 school districts in 28 states have adopted ALEM, in whole or in part, as an elementary school core program for general or compensatory education, or as a mainstreaming program for mildly handicapped students.

The model has been studied extensively a variety of settings and applications, and the results are positive. Students' social behavior and attitudes as well as their achievement in basic skill areas have been consistently positive. Studies of the model, moreover, have shown that ". . .a large percentage of public school teachers can effectively establish and maintain learning environments which are adaptive to the diverse needs of individual students," and, allied to this, that ". . .those desirable classroom processes identified in the research on effective teaching (e.g., high rates of time-on-task and increased instructional interactions with teachers) can indeed be obtained." (Wang, undated, pp. 4-6)

APPLICABILITY TO LOCAL EDUCATION AGENCIES

ALEM operational programs are aimed at mainstream special education students, compensatory education students and regular education students. Thus, ALEM is not designed solely for learners experiencing particular problems or even for defined subgroups of students. It is intended for all students and is designed to bring about individualized school instruction for all students.

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TYPE OF PRACTICE

Alternative Instructional

NAME OF PRACTICE

Computer Assisted Instruction

DESCRIPTION OF PRACTICE

One alternative educational strategy currently being used successfully with low achieving, educationally disadvantaged minority children in regular classrooms is Computer Assisted Instruction (CAI).

Skills are taught to students through individualized instruction in CAI curricula. The computer pinpoints student skill level; generates appropriate practice exercises; analyzes student responses; confirms, corrects or provides error messages of student work; displays student results at the end of a session; and records and stores student performance. The system allows the computer to vary the pace of instruction, select alternate sequences of presentation, test for mastery of the skill, and alter the content of presentation according to individual student's needs.

One school currently using CAI with low achieving minority students (Chapter I students scoring in the third stanine and below on the Metropolitan Achievement Test) is Follow Through School, an integrated magnet school in Buffalo, New York. Follow Through serves approximately 600 minority and 500 non-minority students in grades one through eight.

Of the approximately 740 students using twenty-four terminals over 200 are in the Chapter I reading program, and 135 are in the Chapter I mathematics program. The percent of minority students in Chapter I programs approximates that of the total school population.

Students are scheduled for 15 minutes of CAI daily. The procedure is quite simple: an entire class enters the computer lab with a teacher, the students sign on the computer, enter in a program code, work for ten minutes, receive feedback regarding the number of problems answered and percent/number correct, and sign off. During the 10 minute lessons, students receive computer assisted remediation, skill development and enrichment.

RESOURCES NEEDED

The CAI system was purchased in 1980 from the Computer Curriculum Corporation, Palo Alto, California, with Chapter I and Buffalo Board of Education funds. CAI is currently being utilized in one other magnet school and plans are underway to expand CAI to five other elementary schools in the coming year (1983-1984).

The school estimated that the cost for implementing CAI was:

Central computer (capable of holding 96 terminals)	$ 70,000.00
Eight terminals	37,000.00
Software rental and maintenance	5,500.00
	$102,500.00

The CAI program is coordinated by a full time teacher, assisted by a full time teacher's aide. These individuals are responsible for communicating with teachers, administrators and parents to ensure that CAI programs are coordinated with classroom instruction.

EVIDENCE OF EFFECTIVENESS

In the Buffalo Follow Through School CAI program in 1980 through 1981, 33.3 percent of Chapter I reading students and 62 percent of Chapter I math students were no longer identified as Chapter I students based on MAT test scores. In 1981 through 1982, 39 percent of Chapter I reading students and 65 percent of Chapter I math students were no longer identified as Chapter I students based on MAT test scores.

The Houston Independent School District in Houston, Texas, was selected for a case study (1982) by the Office of Technology Assessment to document the successful application of CAI. With a growing minority student population, which has shifted from almost 100 percent non-minority to 23 percent White, 40 percent Black, 30 percent Hispanic, and 3 percent Asian, the district engaged in planning to ensure that all students acquire competence in basic skills. Houston educators point to an improvement in student achievement as a result of CAI. Students' mean composite scores from 1971 through 1981 on the Iowa Test of Basic Skills document the increased performance of a typically low-achieving population. Ninety-three percent of teachers whose students participated in Chapter I CAI felt that student performance improved as a result of CAI.

Many other schools have documented improvement in achievement scores with students using CAI. The Great Neck Adult Learning Center, Great Neck, New York, began using CAI with educationally disadvantaged adult students in 1977. Students using CAI showed far greater cognitive growth in reading and mathematics than students not utilizing CAI. (Students doubled their rates of achievement for both reading and math from 1.40 years to 2.80 years.) Educable mentally retarded and emotionally handicapped students enrolled in the Multi-Occupational Learning Experience in Broome-Tioga Board of Cooperative Educational Services also demonstrated dramatic gains in achievement scores on the California Achievement Test in 1980 through 1981. Growth rates increased from three to six times the previous growth rate in reading and mathematics for the students.

The Freeport Public School District in Freeport, New York also reports gains in achievement with low achieving minority studnets. The district is one of the largest users of CAI in the Northeast, with a total minority population of 60 percent New York Pupil Evaluation Program (PEP) results for Freeport students are higher than both Nassau County and New York State averages.

APPLICABILITY TO LOCAL EDUCATION AGENCIES

Efforts to successfully implement CAI within LEA settings depend on staff acceptance of and commitment to the program. Computer-literacy training for teachers and administrators, and acquisition of hardware and software must be coordinated with program development. CAI is not intended to replace teachers, but to be a partner in the education of children.

Evaluation studies of a CAI system by the Office of Technology Assessment led to the following finding:

". . .The focus of the Elementary Secondary Education Act on the disadvantaged result in the development and implementation of high technology systems that are effective in providing such students with basic skills. . ." (OTA, 1982, p. 134)

Although data are not currently available to support the promise that CAI will lead to a decrease in referrals of minority students for special education, it can be inferred from the data available of documented increases in achievement by low-achieving students that fewer special education referrals may consequently be made. Traditionally, low-achieving students are being motivated to learn and master basic skills through CAI. CAI shows promise of increasing student achievement and subsequently decreasing referrals of minority students for special education placement.

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ALTERNATIVE REFERRAL PRACTICES

According to the recommendations of the Panel on Selection and Placement of Students in Programs for the Mentally Retarded, referrals for possible placement in special education should be made only after alternative interventions have been attended to within the regular education classrooms. In addition, it was recommended that the referral process could be strengthened if it were implemented by the use of screening devices which did not typically identify a disproportionate number of minority students as being in need of special help. After consultation with leading professionals in the field, we were able to identify two practices that were consistent with the panel's recommendations and this project's goals.

These two practices are:

The Pupil Appraisal Assessment Program presently in use in the State of Louisiana

The Rapid Exam for Early Referral (REFER) and Classroom Learning Screening (CLS)

Of particular interest is the Pupil Appraisal Assessment Program, currently being implemented on a state-wide basis in Louisiana. This practice utilizes pupil appraisal teams and mandates documented regular classroom interventions and formal data collection prior to diagnostic assessment. A number of other Local Education Agencies have established similar consulting teams that are charged with either carefully scrutinizing minority student referrals or with helping the referring agent develop interventions to ameliorate the child's academic and/or behavioral difficulties.

Finally, we also identified Rapid Exam for Early Referral and Classroom Learning Screening. These measures directly assess children's performance on academically related tasks and do not appear to identify a disproportionate number of minority students as being in need of special assistance. Data and analysis used in this report were gathered from programs which employed REFER and CLS recently, as indicated.

TYPE OF PRACTICE

Alternative Screening/Referral

NAME OF PROGRAM

Pupil Appraisal Assessment Program

DESCRIPTION OF PROGRAM

The Pupil Appraisal Assessment Program represents a concerted effort by the State of Louisiana to restructure completely their existing model for providing educational services to needy students. The purpose of pupil appraisal services is to assist children who have learning and adjustment problems, or special needs, by providing services to students, parents, teachers, and other school personnel. In so doing, the Pupil Appraisal Assessment Program has added a number of steps to the traditional screening-referral-assessment process. This serves both as a check and balance function and a source of additional instructional input prior to testing.

The Pupil Appraisal Assessment Program consists of four basic steps: (a) general screening, (b) referral to pupil appraisal services, (c) review of screening information by pupil appraisal services, and (d) an individual evaluation. The uniqueness of pupil appraisal services resides in its stringent guidelines at each stage of the screening-to-assessment process.

At the general screening level, school districts must conduct assessments and document findings in each of the following areas: (a) educational, (b) sensory, (c) speech and language, and (d) motor ability. In addition, at least one regular education intervention or adjustment appropriate to the student's age and learning/behavior problem must be attempted prior to referral. Initial screening information must also be reviewed by a committee of at least two school staff members before it is forwarded to pupil appraisal services.

After screening information is received, pupil appraisal services carefully reviews the information to determine the next step in the process. An evaluation coordinator is designated on a case-by-case basis. The evaluation coordinator is responsible for: (a) interviewing the child's classroom teacher, (b) determining the type of individual assessment program and/or diagnostic assessment, (c) obtaining parental permission, and (d) referring the child to other agencies if necessary.

An individual evaluation is then conducted on each referred child. The individual evaluation may include a Pupil Appraisal Assessment Program, and/or diagnostic assessment. The Pupil Appraisal Assessment Program involves the collection of student information through classroom-based informal procedures conducted in conjunction with the student's teacher(s). Systematic observations and study of the student's academic and/or social behavior are made. In addition, specific behavioral and/or instructional interventions are implemented and evaluated over a reasonable period of time.

If diagnostic assessment is deemed necessary, then it must adhere to the legal mandate(s) of P.L. 94-142 and Section 504. Of particular interest are guidelines established for nondiscriminatory assessment. Examiners must review all available information regarding the referred child's acculturation experiences. If it can be clearly documented that the

child's background is representative of that of the testing instrument's standardization sample, then direct interpretations of test findings can be made. If significant acculturation differences exist, then the Basic Cultural Section of the System of Multicultural Pluralistic Assessment (SOMPA) must be used.

Two local education agencies (LEAs) have been contacted with regard to their progress in implementing pupil appraisal assessment practices in their geographic locations. The targeted LEAs are Calcasieu Parish Schools in Lake Charles, Louisiana and East Baton Rouge Parish Schools in Baton Rouge, Louisiana.

Presently, both sites are in the second year of implementation. During their first year, both LEAs reported significant practical and logistical difficulties in effectively implementing this practice. However, substantial improvements have occurred over the past six months. Both LEAs feel they are "on the right track" and that the quality of educational services has improved immensely through the utilization of pupil appraisal assessment practices.

What follows is a brief description of each local education agency, a discussion of the resources needed to implement pupil appraisal assessment practices withing these LEAs, and a summary of LEA personnel's objective and subjective evaluations regarding the effectiveness of such practices.

Calcasieu Parish Schools

Calcasieu Parish Schools are located in Lake Charles, Louisiana which is found in the southwestern portion of the state. Presently, there are approximately 33,000 students enrolled in grades K-12 in 63 separate school buildings. Of this population, about 72 percent of the children are white, while most of the remaining 28 percent are black. The socioeconomic status of the communities comprising the Calcasieu Parish Schools is described as average. In general, there is a predominance of middle-class, white-and-blue-collar workers in this area. In addition, some rural and urban poverty areas have are included.

The Calcasieu Parish Schools' Director of Pupil Appraisal Services speaks highly of pupil appraisal assessment practices, and notes that the quaiity of educational services being provided to both minority and majority students has improved greatly, especially during this past school year. In particular, he reports that evaluation personnel, i.e. school psychologists, guidance counselors and special education teachers, have gotten "much closer to children in their natural setting" as a function of having to observe them in regular classrooms. In addition, he notes that evaluation personnel are now better able to: (1) "empirically-define" each child's academic and/or behavior problem and (2) develop intervention recommendations that are more practical. The effect of pupil appraisal assessment practices on special education referral and placement rates, is reported as significantly reducing placement rates for all students (minority and non-minority).

East Baton Rouge Parish Schools

East Baton Rouge Parish Schools are located in the state capital and presently serve approximately 58,000 students in grades K-12. Approximately 40 percent of the total school population is black.

Much of the information provided by East Baton Rouge Personnel paralleled that of Calcasieu. In particular, it was again reiterated that the present system took a good year "to get off the ground," and that initially there were a lot of negative feelings,

especially on the part of regular classroom teachers who were now required to provide substantially more information regarding their curricular practices and adaptations. It was noted, however, that things are going much better this year and that rapport with regular educators has greatly improved. In addition, referral rates have fallen significantly and this may suggest that children who eventually are diagnostically assessed really are the ones who need the help. To substantiate this, the proportion of children being placed following diagnostic assessment is significantly greater than in previous years when many children with only minor difficulties were being referred. One positive outcome of this situation is that presently there appears to be a much broader representation of minority students in regular education programs.

RESOURCES NEEDED

Initial implementation of pupil appraisal assessment practices will place additional financial requirements upon the school system. These additional costs will primarily involve the hiring of "new" evaluation personnel and the retraining of existing staff. Such a process took Calcasieu Parish Schools approximately one year to work out. Presently, there are no major difficulties in this area. In contast, he reports that his evaluation staff have made great strides in the development of informal and curriculum-embedded assessment practices which are being used in lieu of formal, standardized measures. When asked about the applicability of pupil appraisal assessment practices to other local education agencies, The Calcasieu Director said that such practices could be effectively implemented elsewhere if LEAs have sufficient funding to hire additional personnel. In either case, it was felt it would still take approximately one year to get it going.

Implementing pupil appraisal assessment practices in East Baton Rouge Parish Schools has required some additional personnel and considerable in-service training of existing staff to perform different evaluative functions. East Baton Rouge Pupil Appraisal Services staff size has doubled since pupil appraisal practices have been mandated, but the Director emphasized the positive aspects of such personnel increments. First, teacher requests for assistance are being handled in a much more timely fashion. Children are not simply waiting to be evaluated, and teachers are not waiting long periods of time for recommendations regarding what to do with their referred students. Secondly, children's academic and/or behavioral needs are being more directly assessed through the use of curriculum-embedded assessment measures. Finally, intervention recommendations are more closely aligned with the problems referred children present and therefore are deemed to be more practical and useful by classroom teachers.

EVIDENCE OF EFFECTIVENESS

Statewide data on referrals for diagnostic assessment show a marked decrease in the number of such referrals and a consequent decrease in the overall number of placements in special education. For the 1981-82 school year 33, 457 referrals were made while 1982-83 figures were reduced to 21, 548. In addition, statewide referrals for regular education interventions had increased by over 3,000 for 1982-83 when compared to 1981-82. State records show that 78 percent of all referred students have, in the past, been classified and that a significant disparity has existed between the rate at which minority students have been classified (83 percent) and the rate at which non-minority students have been classified (75 percent). Current data, for 1982-83, are not yet available but critical issues can be anticipated. The first of these is, will PAAP result in any decrease in the previously recorded disparity found to exist between Black and White rates of classification? As noted, local administrators believe this will very likely be the case but hard data must be recorded if this practice is to be validated as providing a fairer assessment for minority students.

The second issue is, will the overall classification rate for students referred for [illegible] It is logical to assume that the classification rate may actually increase if PAAP results in effective regular education interventions for students previously referred prior to, or in the absence of, such assistance. The differential between significantly lower numbers of referrals for diagnostic assessment, overall classification rates and the previously mentioned disparity between Black and White student classifications will be a critical indication of the success this program achieves as a solution to the problem of minority overrepresentation in special education.

APPLICABILITY TO LOCAL EDUCATION AGENCIES

Central to the utilization of any regular education intervention as a preferred strategy for reducing the overrepresentation of minorities in EMR classes is the assumption that students who perform well academically are less likely to be referred for placement in special education.

While this may seem obvious it nevertheless will involve at least three levels of implementation, and each of these areas will have to be documented to establish the validity of the assumption: (1) regular education curricula and practices must address the particular needs of targeted low achieving student populations and data must be collected that indicates they are doing so; (2) students must show they are responding by achieving higher academic performance; (3) data must be collected to verify that greater student achievement will result in reduced rates of referral and placement. If disparities in minority-majority placement continue, however, then other variables will have to be investigated.

The importance of appropriate regular education interventions in a program like PAAP cannot be overestimated. Our investigations, and currently available data indicate it is achieving lower referral and placement rates and shows promise of reducing this problem.

Limitations

Unfortunately, no new practice is without its shortcomings. In the case of Pupil Appraisal Assessment Practices, it appears that the limitations reside primarily within the area of curricular options. In particular, it was noted that significantly more students are being maintained within regular classroom environments as a result of "tightening up" the school's referral-assessment-placement process. While in this environment, educational assessment teams are working in conjunction with regular classroom teachers to improve target children's academic performance. Missing, however, are specific curricular materials adapted to the learning needs of individual children, and curriculum-embedded assessment devices and probes to monitor student performance. This need is especially critical at the middle school level. At present, the LEA staff is in the process of developing its own curriculum-embedded measures and instructional modifications to existing materials.

As noted earlier, the major difficulties associated with implementing the Pupil Appraisal Assessment Practice are both attitudinal and fiscal in nature. Existing personnel must be convinced that they can, in fact, teach many problem children in regular classrooms if appropriate instructional modifications are made. The major problem lies in the development of curricular materials appropriate to the diverse learning needs of children found in existing regular classroom settings. Secondly, the requirement of additional personnel may place extreme hardships on already financially-drained school systems. In this instance, perhaps intensive retraining of existing personnel may suffice.

TYPE OF PRACTICE

Alternative Screening/Referral

NAME OF PROGRAMS

Rapid Exam for Early Referral (REFER)
Classroom Learning Screening (CLS)

DESCRIPTION OF PROGRAMS

The Rapid Exam for Early Referral (REFER) and Classroom Learning Screening (CLS) are two relatively similar devices developed for the purpose of screening children for potential academic difficulties and/or possible referral for special education services. Because of their fundamental similarities these instruments have been included under one practice heading. Characteristics and theory common to both are described in this introductory section for purposes of brevity and conciseness. Following these remarks each practice is presented in a self-contained section which specifies its unique features, technical data and additional comments relevant to each respective instrument. A final section on applicability and limitations with comments applicable to, and consequently generalized for, both is offered in conclusion.

REFER and CLS differ from traditional, standardized screening devices in that they require the direct, daily assessment of preacademic and academic behaviors found to correlate highly with success in a regular classroom environment. An interesting feature of both REFER and CLS is that they provide the examiner with two types of data: (a) a measure of performance, and (b) a measure of learning. Performance is defined as the number of times a specific behavior e.g., adding two-digit problems without carrying, occurs during a fixed period of time. Results from this type of assessment will allow the teacher to compare a particular child's performance against his/her classmates and/or derived normative standards. Such comparisons are expressed in terms of a child's Performance Index.

In addition to obtaining comparative information on a child's performance, REFER and CLS also allow the examiner to assess changes in a child's performance by comparing his/her performance rates over a ten day period. These changes in performance are defined as a measure of learning, and the amount of change is a measure of the rate at which the child learns. This latter measure is designated as a child's Learning Index.

In traditional screening procedures, only measures of performance (norm-referenced comparisons) are typically reported. Therefore, children entering school programs with deficiencies in their prerequisite academic skills will typically be identified for special help at a disproportionately higher rate. However, by adding a measure of learning, each child will have an equal chance to show how she/he learns - independent of the level at which he or she began.

In evaluating the potential utility of these screening devices, we were concerned with four facets of each measure: (1) the representativeness of each device's norming sample, (2) the consistency and stability of each measure's derived scores (reliability), (3) the degree to which each device accurately measures what it claims to measure, and (4) the rate at which each device identifies minority students as being in need of special assistance compared to the rate for non-minority students.

REFER

REFER consists of four tasks: (a) writing loops, (b) touching body parts upon request, (c) counting one to ten, and (d) touching circles upon request. These items are administered individually to three to six year olds on a daily basis over a specified number of days (10 days). Assessment takes approximately ten minutes per child. Following initial item selection, REFER was field-tested with a sample of 3,194 preschool and kindergarten students ranging in age from 40-110 months. This sample included a relatively large percentage (36 percent) of urban, Black students.

Technical Adequacy

Three forms of reliability have been reported in the REFER manual. These include: (a) reliability of screeners following one day of training, (b) reliability of counting, correcting and reporting; and (c) practice-test reliability. Reliability coefficients exceeded .80 on the first two forms of reliability and were reported to be statistically significant for the third. The authors concluded that, "overall, the reliability of the screening data was substantiated; i.e., these data can be used with confidence in their accuracy."

During the 1978-79 school year, the Tacoma, Washington School District, in conjunction with the REFER authors assessed the short-term predictive validity of this measure with a population of 696 kindergarten children. Of the 696 children screened, 22 (3 percent) scored in the lowest quartile when compared to national norms on each of the four test items. Nineteen of these twenty-two children still remained in the Tacoma School District the following year during follow-up. Of these 19 children, 15 (79 percent) were either retained or had already been referred, assessed and placed in special education programs. In terms of predictive validity, REFER did, in fact, pinpoint a significant percentage of high risk children. Additional data also indicated that 95 percent of the students identified by screening as not needing diagnosis were not retained or referred for diagnosis. The instrument missed slightly less than five percent (false negatives). The authors concluded that overall, "the predictive validity of REFER as a screening device is excellent."

Cultural Nondiscrimination

The issue of cultural nondiscrimination in REFER scores was examined in two ways. First, by item, the mean scores of minority students were compared to the mean scores for the sample to see if the means were within the standard error of measurement of the total sample. Second, the proportion of ethnic minorities among those students referred for diagnosis based on the screening was compared to the proportion of ethnic minority in the entire group screened.

At the preschool level, the mean scores of minority children were within the standard error of measurement of the entire preschool sample on two of the items and above the standard error range on the remaining two tasks. At the kindergarten level, the mean scores of the 892 minority children were within the standard error range of all kindergarten children screened on three of the four screening items. Overall, the data show that, as a group, the difference between minority children and the entire sample was statistically not significant.

The second technique for evaluating the nondiscriminatory nature of REFER required an examination of the ethnic background of those students referred for further diagnosis as compared to the ethnic composition of the population screened. Since the population contained 29 percent minority students, then only 29 percent of the students referred because of screening results should be from ethnic minority groups. Two statistical

techniques (Chi-square and the Z statistic) were used to determine the significance of the actual minority referral percentage (34 percent) compared to the expected percentage (29 percent). Both techniques showed that the actual number referred was not significantly different from those expected based upon the number of minority students in the screened populations. In the authors words, "the screening device did not identify a disproportionate number of minority students."

CLS

Classroom Learning Screening is administered over a ten day period. The test items include: (a) oral reading, (b) spelling, and (c) math computation. The difficulty level of stimulus materials will be determined primarily by the student's grade level. Presently, there are standardization data available for grades one through six, and the CLS technical manual provides specific procedures for selecting stimulus materials. During CLS, students are asked to complete as many math problems as they can in one minute. A child's CLS learning index is determined by the amount of change between the first and second week's performance.

Technical Adequacy

Classroom Learning Screening was standardized on a total of 8,868 students from four locations in the State of Washington. However, adequate descriptive information e.g., ethnic background, achievement test scores, etc., was only presented on 67 percent of the original sample. For those students with complete descriptive information, approximately 95 percent were nonhandicapped and were presently enrolled in regular education programs while the remaining five percent were attending special education classes for the mildly handicapped. In addition, approximately 10 percent of the standardization sample was composed of minority students, i.e., Black and American Indian. Complete breakdowns of ethnic background by grade level are presented in the CLS Handbook.

Three forms of validity data for CLS have been reported: (1) content, (2) concurrent and (3) predictive. For purposes of this discussion, only predictive validity data will be reviewed. The authors report that CLS predicts with high accuracy those students who will eventually be referred for specialized diagnosis and services. For example, CLS was used to screen 1,200 children attending grades K-6, in six matched-pair elementary schools in Great Falls, Montana. At the end of the school year, a listing of pupils referred for special services was then matched to the then-analyzed control group data. The fall screening accurately identified 91 percent of the students eventually referred for special services. Two additional predictive validity studies found that CLS successfully identified 94 and 89 percent of the students eventually referred and/or placed in special education programs.

Cultural Nondiscrimination

The culturally nondiscriminatory nature of Classroom Learning Screening was examined statistically by comparing the percentage of minority and nonminority students being identified as in need of special services. Examination of student performance scores on CLS revealed that larger percentages of minorities than of non-minorities were classified as two years or more below grade level. The authors note that in this instance performance scores on CLS do not differ significantly from data generated from traditional standardized measures. However, when learning scores on CLS are examined, the data indicate that the percentages of non-minorities and minority groups identified are nearly equivalent to the actual percentages of those groups in the population tested. In other words, the use of CLS learning scores did not result in a disproportionate number of minority students being identified for possible education services.

APPLICABILITY TO LOCAL EDUCATION AGENCIES

REFER and Classroom Learning Screening appear to be promising practices for inclusion in Local Education Agencies present screening-to-placement process. These measures are quite simple to utilize and require relatively little time to implement. A second advantage of these measures is that they appear to be measuring functional classroom behaviors for which suitable intervention procedures can be developed. Such a characteristic is consistent with the recommendations of the National Academy of Science regarding the selection of assessment measures. Finally, both REFER and Classroom Learning Screening appear to be relatively free of cultural bias. Neither the mean learning scores of minority students nor the percentage of minorities identified for further diagnosis differ significantly from expected performance levels given existing normative data. However, because Performance Index data do reflect larger numbers of minority students, a simple composite of Performance and Learning Indices will still be discriminatory.

If the discrepancy between Performance Index Scores and Learning Index Scores is seen as a revealing indication of the process by which minority students have historically been referred for placement at higher rates than non-minority students, and the implications of this discrepancy for successful pre-referral interventions are understood, this instrument might contribute to a reduction in this problem. Performance Indices can be used to suggest a student's areas of academic difficulty and consequently help pinpoint educational strategies to assist that child. The Learning Index, by not identifying minority students disproportionately can provide educators with a clearer assessment of a child's ability to learn and consequently reduce culturally biased or inappropriate referrals for these students.

In summary, it appears that the utilization of either REFER or CLS prior to referral for additional assessment would significantly improve the screening-to-placement process in most Local Education Agencies. However, results from these devices should not be used as sole determinants of eligibility for special services. Instead, they should be used in conjunction with additional functional assessment information.

The reliability of REFER and Classroom Learning Screening, at least in terms of stability (test-retest), appears to be a somewhat different issue than for most standardized tests. This is so because by design these devices attempt to measure a pupil's learning rate as a function of repeated opportunity to practice the same task. The authors do, however, report one conventional test-retest study of CLS that was conducted with 54 third grade students over a 10 day interval. Correlation coefficients of .90 for subtraction facts and .86 for "see-say" words were noted. Additional stability data for both REFER and CLS must be collected to confirm these results.

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ALTERNATIVE ASSESSMENT PRACTICES

The use of Alternative Educational Practices within the regular classroom and more stringent screening and referral procedures may greatly reduce the number of students being referred for diagnostic assessment. However, it is felt that a number of students will continue to receive psychoeducational evaluations. When this occurs, it is essential that such assessments conform to the legal mandates of Public Law 94-142 and to the recommendations of the Panel on Selection and Placement of Students in Programs for the Mentally Retarded. Of particular interest is the panel's recommendation that measurement techniques should directly assess a child's functional needs and should only identify those needs for which potentially effective interventions exist.

Additional Alternative Assessment Practices include:

Reclassification and Declassification Programs

Interactive Model for Professional Action and Change for Teachers (IMPACT)

The Kaufman Assessment Battery for Children (K-ABC)

The Kaufman Assessment Battery for Children is being included as a promising practice despite the fact that it has yet to be used on a district-wide basis for assisting minority students. However, data generated during the development and testing of this instrument appear quite promising and its theoretical basis is predicated on minimizing cultural bias, an issue directly relevant to assessment of minority children.

TYPE OF PRACTICE

Alternative Assessment

NAME OF PRACTICE

Reclassification and Declassification

DESCRIPTION OF PRACTICE

Champaign, Illinois is a city which serves 8,200 students in four elementary schools, two middle schools, and two high schools. Champaign has a rich and diverse special education program that serves all of the standard categories. In 1979 the district served 194 Educable Mentally Handicapped (EMH) students from preschool through high school. Today, at least in part as a function of the EMH Transition Program and the district's redefinition of the EMH category, the program has 43 EMH students served in three self-contained classrooms for grades K-8 and in resource rooms at the high school level.

Late in 1979, teachers and administrators surveyed enrollment in classes for EMH. The district's administrators found that while minority children made up 26 percent of the district's total enrollment they accounted for 72 percent of the students in classes for the Educable Mentally Handicapped (EMH).

What the Champaign Unit #4 School District did when faced with a disproportionate number of minority students already in special classes for EMH students involved a complex restructuring of both its special and regular education programs. This report will focus on the assessment process undertaken to return students to the regular classroom. The philosophy that guided the district, their planning process, their problems, and the steps they took to return students to regular classrooms are of central concern.

Early in the process children's needs emerged as the first priority. The district did not intend to rush into an undertaking where children in need of services were removed from special education and left to fail academically and emotionally in the regular school program. It was also decided not to reclassify students, for example as learning disabled, which would only switch the situation to another category. Instead it was decided to declassify students and to support them within the regular education program as regular education students. This was not to be a mainstreaming program. At the same time it was recognized that success would depend to large degree on developing the greatest possible staff acceptance and support from parents.

As work on the plan progressed, several policy ramifications and strategies for district wide change emerged. On the most basic level were three related beliefs: (1) that the regular classroom should be a diversified educational setting where the needs of a wide range of students can be met, (2) that all students should be encouraged to achieve above their perceived capabilities, and (3) that full responsibility for the education of the transition student rests with the regular classroom teacher. These were (and are) radical positions. Champaign, like many school districts, had provided for problem learners by developing a number of categorical programs directed at meeting perceived special needs. As a consequence, students who exhibited problems (according to someone, generally teachers) were referred to special programs, and the regular classroom teachers had grown reluctant to assume responsibility for the learning of students who were considered different.

THE EMH TRANSITION PROGRAM

The Champaign school district's plan for reducing overrepresentation of minority students in its classes for Educable Mentally Handicapped (EMH) students is called the EMH Transition Program. Below are its major elements.

1. Establish new EMH eligibility criteria consisting of: (a) an IQ at least two standard deviations below the mean on an individual IQ test; (b) a score at least two standard deviations below the mean on the Adaptive Behavior Inventory for Children (ABIC); and (c) professional judgment of the staff.

2. All EMH students already in the EMH program who had an IQ of 70 or above on their most recent evaluation would be reevaluated to determine whether or not they met the newly established EMH criteria.

3. Students who met the new criteria would remain classified as EMH students and would be provided special education services in the least restrictive environment.

4. Students who did not meet the newly established criteria would be declassified. They would no longer qualify as EMH students. They would become regular students and would reenter regular classes through the EMH transition program.

5. The transition program would be piloted in one school during the 1980-1981 school year with two existing primary level classes of EMH students. This would test the program prior to implementing it throughout the system.

6. Based on the pilot results, the program would be implemented at other schools the following year.

7. Declassified pilot students would be returned to regular classrooms in their home schools the following year.

8. Resource/Consulting Teachers (R/CT) and aides would follow transitioned students.

9. Teachers and administrators would be heavily inserviced during the process.

10. Resource/consulting teachers (R/CT) and teacher aides would support regular classroom teachers. R/CTs would observe the child in the classroom, conduct curriculum based assessments, confer with the receiving teacher and the student's EMH teacher to plan a successful transition, consult with the receiving teacher and classroom aide, and assist in interpreting the program to parents.

The pilot school selected to test the program is an elementary school with 389 students in preschool through the fifth grade. This particular school was selected for two basic reasons. First, and perhaps most important, its principal supported the program. Second, the school and its teachers were familiar with handicapped students. Seventy-two of the school's students had been identified as having various handicaps. The school had two EMH classrooms and a history of integrating EMH students in regular classrooms. In addition, it had other classrooms for handicapped students and an array of support services including a resource teacher, speech and language, social worker, Chapter I Reading, and instructional aides. The two EMH classrooms contained twenty-two students from eight to ten years old. Twelve were male and ten were female.

Reevaluation assessment was aimed at both the classification decision and instructional planning. While Illinois does not mandate absolute criteria to determine who is eligible for EMH programs, prior to reevaluating its EMH students, the Champaign school district formally adopted the American Association on Mental Deficiency's (AAMD) definition of mental retardation. This accomplished two things immediately. It lowered the IQ cut off from the district's informal practice of using 80 to the AAMD's 70, and it added the additional dimension of adaptive behavior functioning to the assessment process. The WISC-R or Stanford Binet were used to determine IQ, and the full SOMPA was given to provide an index of adaptive behavior. In addition, a variety of other standardized instruments were administered; curriculum based assessments in reading, math, and spelling were performed; classroom observations were made, and a classroom behavior assessment, social competence scale, and an oppositional behavior inventory were completed. School psychologists, speech and language therapists, EMH teachers, regular classroom teachers, the resource consulting teacher, and instructional aides were all involved as appropriate.

When the data were examined it was determined that 17 of the 22 students did not qualify for the EMH program under the new criteria. This was considerably higher than expected, and it had two immediate repercussions. Since it had been determined that only two or three declassified students would be assigned to a given regular classroom, more regular classrooms would be needed to accept declassified students, and an EMH classroom could no longer be justified for the pilot school. The latter effect was particularly important since it had been decided that EMH teachers should not work with declassified students because it was likely that such teachers would perpetuate expectations associated with being labeled mentally retarded. One EMH teacher became a resource consultant in a different school, and the other EMH teacher became a regular classroom teacher after her students were declassified. Planning for staffing changes is a vital part of implementing a declassification program.

There were two components to inservice education provided as part of the EMH transitional program. One component was undertaken early in the development of the plan with the goal of helping district administrators and school psychologists learn background material and acquire a positive perspective for developing the needed plan. The second inservice component was designed to help regular classroom teachers become more effective teachers of the declassified students. The former goal involved a workshop in which an outside consultant discussed minority assessment, disproportion in special education, SOMPA and relevant legislation. This workshop was followed by two more. In one workshop another outside consultant discussed sound educational programming, and in the final workshop the district's assessment staff was introduced to and learned how to use SOMPA. These workshops provided the foundation for the plan that was developed.

Inservice training for teachers who received the transitioned students was devoted to helping them develop greater skill in curriculum based assessment, task analysis, direct instruction techniques, and classroom behavior management skills. The major vehicle for training was to be ongoing consultation between the resource/consulting teacher (R/CT) and the classroom teacher, but this did not work as well as planned in practice because R/CT's devoted more time than anticipated to direct instruction with transitioned students.

In order for a declassification program to be successful, regular classroom teachers need to be highly skilled, and they need to feel secure in using those skills with low achieving students. Consultation with a skilled support teacher is a highly effective inservice approach to upgrading teaching skills, but it requires careful planning and particular care to ensure that the needed consulting time is available and scheduled.

RESOURCES NEEDED

There are always some financial costs to a declassification program like Champaign's. One cost is the eventual loss of reimbursed funds toward the salaries of professional staff. In Illinois, certificated staff approved by the state are reimbursed at a rate of $6,250.00 per certificated staff member. When returning students to regular classrooms results in fewer special education teachers, the district no longer receives $6,250.00 for every teacher lost. At the same time, however, the district no longer has to bear the difference between the teacher's salary and fringe benefits and the $6,250.00. This is a considerable savings that can be used to expand and strengthen regular class offerings.

Another loss in revenue occurs when special education students are declassified. The reduction of students in classes for EMR results in a loss of Public Law 94-142 child count funds.

Reevaluating students also costs additional dollars, but the need for reevaluation is limited, and as the declassification program progresses, the demand for evaluations and reevaluations of declassified students decreases and ultimately stops altogether. Over time reevaluation costs should be more than balanced by the reduced number of evaluation referrals for special education placement.

Though inservice education, training, and administrative costs are temporarily increased, these costs will soon decrease, and they can be reduced by receiving funds from external agencies as was true in Champaign's case. Moreover, the reduction of recurring program costs which result from declassification will offset the temporary increases. Over a long period, savings in ongoing program costs will at least offset the short term financial costs.

Two kinds of personnel are needed in a program like the one just described. Initially people are needed to help develop the plan and to provide inservice training for the teaching staff, administration, and others such as school psychologists. What is needed is perspective, objectivity, and experience. The outcome should be a plan that fits a district's needs and character and a staff that is informed about the plan, feels it is an important part of the effort, and is committed to its implementation.

In Champaign's transition program the key professional is the resource/consulting teacher (R/CT). The regular classroom teachers must finally be the responsible professionals, but the R/CT is charged with helping them develop the needed skills and with providing needed direct student services during the transition period. The RCTs must be skilled professionals. They must know the regular class curriculum and be skilled in behavior management, direct instruction, and curriculum based assessment. Equally important they must be skilled consultants and planners and be comfortable working in teams and with parents. The number of R/CTs needed is a function of the number of students being transitioned across buildings and classrooms. R/CT's should serve no more than 15 students at a time.

EVIDENCE OF EFFECTIVENESS

Three overlapping questions are involved in assessing Champaign's EMH Transition Program. They are:

1. Was the pilot program successful?
2. What is the program's long term effect on declassified students and others experiencing academic learning problems?
3. What do people involved in the program think of it?

Champaign's top administration was sufficiently pleased with the program to move into the plan's second phase in which the program would be implemented throughout the district. The new criteria were utilized in reevaluating students. Forty-five declassified students were placed in transition programs at four elementary schools; 17 students were declassified in two middle schools and 30 in two high schools.

Pilot data on eight transitioned students in regular class direct instruction programs indicated an average achievement gain of 1.9 months for every month of instruction. Fewer minority students are being labeled EMH. The 72 percent proportion of minority students was reduced to 51 percent by use of the IQ criteria alone. Fewer students are being referred for special education placement. The learning disabilities program is being examined with an eye to declassifying more students. This will further reduce the referral rate and the proportion of minority students in special classes for the mildly handicapped.

Complete data regarding the achievement gains of transitioned students is presently being analyzed and will be available soon. Informal examination of those data indicates that many students raised their academic skills considerably, but many others did not raise their basic skills to a level required for independent functioning in the regular classroom. For such students, and for other low achieving students, alternative interventions with support services may be required. In addition to academic performance, absenteeism, failure rate, and dropout rate are being analyzed as indices of the program's success.

Regular classroom teachers wanted more consultation time with R/CTs and more inservice. The gap in basic skill areas was too large to overcome in one year for many students, and the gap became more pronounced at higher grade levels. For many, the goal of independent functioning was unrealistic. More attention to the social adjustment problems of transition students would have been desirable. Direct instruction materials were helpful for basic skill instruction at all levels. Audio tapes of textbooks were beneficial. The quality of the curriculum for low achieving students was an issue that transcended the transition program. There may be a place in all curricula for a role like that of the R/CT. Several teachers were very positive about the progress that students had made during the year. Students placed in regular classrooms have been helped to feel like normal students. Teachers at the elementary level were generally positive about this program while teachers at the secondary level gave the program mixed reviews that were directly related to students' basic skills, motivation, and absenteeism.

APPLICABILITY TO LOCAL EDUCATION AGENCIES

The EMH Transition Program has had a decided impact on the district's regular education program that is expected to become even more pronounced over time. Regular classroom teachers are assuming responsibility for students who have problems learning required material. Teachers' steadily increasing skills in curriculum-based assessment, managing behavior, direct instruction, and teaching social adjustment skills make it possible for students with learning problems to receive a quality education within the regular education framework. More potentially effective interventions will be available, and fewer students will need to be referred and placed in more restrictive special education classes.

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TYPE OF PRACTICE

Alternative Assessment

NAME OF PROGRAM

Interactive Model for Professional Action and Change for Teachers (IMPACT)

DESCRIPTION OF PROGRAM

One of the potentially most effective intervention models for reducing overrepresentation of Black and other minority students in classes for EMR has been developed in Vermont where there are practically no Black students and the largest minority group is Franco-American. Developed in 1970 and studied and refined ever since, the consulting teacher service has remained largely a Vermont based undertaking. Lately, however, it has begun to spread. The model, for example, is being used successfully today with inner city, poor, minority students in Boston.

In the consulting teacher service model regular classroom teachers retain responsibility for students who are having trouble learning required material, but they do not work in isolation. Regular classroom teachers are supported by consulting teachers who provide short term, direct, data-based instruction to students, inservice teacher education that focuses on teaching and learning principles, and ongoing, in-the-classroom consultation. The outcome is regular classroom teachers who learn and use alternative instructional interventions. As a result, failing students do not have to be placed in special education and mildly handicapped students have become successful learners in the regular program's least restrictive environment. (Knight, et al, 1981; Paolucci-Whitcomb, 1980; Miller and Sebatino, 1978.)

Such accomplishments result from a complex interplay of factors that have yet to be isolated. This report deals only with the functional curriculum based assessment aspect of the model and how the model uses assessment information to develop alternative educational interventions. Illustrations of how this aspect of the model works in action are drawn from the Interactive Model for Professional Action and Change for Teachers (IMPACT) which is a joint effort by the University of Vermont and South Burlington High School to develop better ways of teaching mildly handicapped and other low achieving students who are having difficulty mastering Vermont's required competencies.

IMPACT has demonstrated a number of outcomes important to this effort. IMPACT has demonstrated that high school students can be assessed on a defined set of academic educational requirements, that those assessments can be directly related to potentially effective alternative interventions, and that regular class high school teachers can successfully use alternative instructional approaches to ensure that students who have problems learning do, in fact, learn mandated requirements. IMPACT has shown, moreover, that all of this can happen in the least restrictive environment.

This report focuses on the functional, curriculum imbedded educational assessment aspects of IMPACT. Consequently we will emphasize two of IMPACT's major goals: (1) to develop a more efficient system to monitor student progress in acquiring mandated basic competencies, and (2) to design regular class teacher support services necessary to serve students not achieving basic competencies.

The framework for IMPACT is provided by the Vermont State Board of Education mandate that all students who graduate from high school must first master a series of 66 basic competencies. The competencies themselves are descriptive statements of expected student behavior. Writing Competency Number One, for example, is, "The student will write all required material, including signature, legibly in manuscript, and cursive. In practice, Vermont's competencies are operationalized in even clearer terms. Writing One becomes, "Given assignments of at least 25 words in manuscript and in cursive, the student will complete the assignments and write his/her signature so that they are legible to the evaluator."

Requirements stated with this degree of clarity make a number of particularly useful contributions to schools that are concerned about students who experience problems learning. Such statements provide clear referents for school performance and decision making that involves school performance. They provide a framework for monitoring the accomplishments of students and schools alike, and to target resources on very specific problems. They make it easier to understand what is expected and to communicate those expectations.

To help teachers collect data and to standardize competency assessment IMPACT developed a competency testing manual. The manual's plan has several components. First, the plan lists each competency and identifies the grade where each competency is to be introduced and mastered. The plan's next sections deal only with the program itself. The first section tells where and when direct teaching, assessment, remediation and reassessment of each competency are to occur. Then the plan tells where and when support teaching, remediation, and maintenance are to take place. The plan's final section is a summary chart.

The bulk of the testing manual is devoted to the competency tests themselves. Each competency has its own test (and often alternative tests) that can be reproduced by teachers. Then the required competency is stated, followed by restatement of the competency as a behavioral objective. Directions to the student follow and then the test itself or a space for completing the required task. On a separate page the teacher is provided with a key and a list of needed materials. This test format is repeated for all of the required competencies.

The assessment manual and the accountability manual allow the entire school staff to know what is expected of students, when and where competencies are to be taught and tested, and what the tests are going to be like. In effect the manual operationalizes what students must learn and the conditions and standards by which student learning will be judged. By focusing on behaviors instead of student characteristics, the manual protects against bias in assessment. Most important, the manual enhances the probability of valid assessment by focusing directly on required learnings.

In this model high school students are expected to demonstrate mastery of each mandated competency and then, after at least a two month period, to show that they have maintained their mastery. The school keeps track of progress toward mastery and maintenance by assigning the teaching and testing of each competency to a required course and then making the school's teaching departments directly responsible for supervising the system.

Teachers and mentors collect student performance data using tests from the competency testing manual. Results are placed first on group record cards maintained by the department and eventually in individual student files that are supervised and maintained by a centrally based secretary.

Each of the departments (and the mentors) has its own card for maintaining records of students' progress in competencies assigned to department courses. At a glance, therefore, a particular student's progress can be seen, and so too can the department's progress on given competencies across students. Periodically, department cards are sent to the central record office so data can be transferred to individual student cards and the computer.

Individual student cards provide a record of each student's progress on all of the required basic competencies. Each card has an individual chart for each of the six required competency areas.

The result is a simple, efficient system that provides an up-to-date, accurate picture of progress on competencies by individual student, by department, and by competency. This information is used as an effective administrative tool to identify weaknesses, to focus planning, and to marshall resources - all in support of enhanced student learning.

Competency testing data is used to develop alternative educational interventions designed for students having difficulty mastering particular competencies. First, teachers and mentors collect individual student data that are periodically compiled on departmental group cards. Then the department chair reviews the group card to determine whether competencies are being achieved on schedule. While no rigid decision rule is used, when the department chair determines that a number of students are not achieving a particular competency as expected, inservice education is undertaken to help the responsible classroom teachers develop teaching strategies and curriculum materials designed to help the students who are not learning. In effect, specific, potentially effective, alternative interventions are designed to help learners master the mandated competency. Instruction is analyzed by task and materials are adapted and developed. Demonstration, practice, and feedback take place in workshop settings and in the classroom.

In one instance the English department chair noted that the English faculty had not been successful in helping many students learn Writing Basic Competency Number Eight. Two English teachers cooperated with the consulting teachers to develop a means to help students learn an error monitoring strategy when writing. External aid was sought, materials were developed, and the procedure was demonstrated and practiced. Today the entire English department uses the procedure, and 90 percent of the special education students master the competency compared to 65 percent in previous years (Knight, et al., 1981-82).

Linking competency testing to educational alternatives has a number of positive results. Assessment results become more useful when they point to potentially effective interventions. Teachers develop new approaches and have an array of alternatives to choose from when faced with helping a student who is having problems learning, and they are able to study the effects of these alternatives before deciding to refer a student for special education. Equally important, using instructional alternatives benefits not only students having problems but also ordinary and even excellent students.

RESOURCES NEEDED

No financial analysis of IMPACT has been undertaken, but it appears to be cost effective. The monitoring system is efficient and effective and requires the addition of but one secretary to maintain up-to-date central files. The administrative benefit of such information appears to more than outweigh the costs.

Other than the secretary, consulting teachers are the only additional staff. The staff, however, point out that, in reality, consulting teachers are not truly additional since there are no special class teachers of mildly handicapped students who would be needed if the consulting teachers did not provide support services. Consulting teachers merely replace special class teachers and, therefore, do not represent any additional cost. Elsewhere, it has been estimated that it costs $200 less per year to educate a special class, elementary level student in a consulting teacher program than it would cost in a special class program.

The IMPACT model requires the services of consulting teachers who are being trained only at the University of Vermont and at Simmons College in Boston. The University of Vermont has prepared materials to facilitate replication of its training model which, if adopted by other institutions of higher education, would mean that more consulting teachers would be available throughout the country.

EVIDENCE OF EFFECTIVENESS

While the particular effects of the assessment procedures just described have not been formally studied in isolation, IMPACT has been evaluated as a Secondary Child Service Demonstration Center funded by the U.S. Department of Education. Selected findings about student outcomes and teacher effects are listed below. While it cannot be inferred that the described assessment procedures are solely responsible for the indicated results, it is reasonable to think that they contributed. At minimum, the assessment program is shown to be a part of a complex model which has demonstrated that regular class high school teachers can be effective in helping mildly handicapped students learn required competencies in the least restrictive environment.

Student Outcomes

1. Over a two year period a group of 83 secondary level special education students made significant progress on 5 competencies selected for study because of initial low rates of mastery. Before the program 3.7, 0, 0, 0, and 3.7 percent of the special education students achieved mastery of the studied competencies. Two years later 83, 83, 84, 87, and 92 percent of the special education students achieved mastery of the same competencies.

2. At the beginning of the project, special education students had mastered 27 percent of the required competencies. At the end of the project, all of the special education students had acquired all of the required competencies.

3. Special education students' grade point average rose from 1.35 to 2.0.

4. Special education students' average rate of absenteeism was lower than their peers' average rate, and they dropped out of school at a significantly lower rate than their peers dropped out.

The evaluation report concluded:

> The evidence [cited in the foregoing section] strongly suggests the project made a positive, significant and important impact upon student gains in achievement of basic competencies. The evidence also suggests that students in the caseload population come to school more often, dropout less frequently, and finally achieve mastery of basic competencies. It also supports the claim that the institution of inservice education in instructional design and a monitoring system positively impacts upon the rate of achievement of basic competencies by all students. (Impact: A Summary Report, 16).

APPLICABILITY TO LOCAL EDUCATION AGENCIES

IMPACT has met with considerable success. Special education students have shown a dramatic increase in the percent of students mastering selected competencies, and aside from school dropouts, one hundred percent of the 1982 graduating class acquired the required basic competencies. All of this, moreover, was accomplished within the regular classroom setting. Because of IMPACT, mildly handicapped students do not have to go to resource rooms or special classes to receive a quality education; they stay in the least restrictive environment, their regular high school classroom.

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TYPE OF PRACTICE

Alternative Assessment

NAME OF PROGRAM

Kaufman Assessment Battery for Children (K-ABC)

DESCRIPTION OF PROGRAM

Testing Theory and Application

The Kaufman Assessment Battery for Children is a newly developed assessment device. It consists of sixteen subtests, (with a maximum of thirteen administered to any particular child) which yield results in four categories: Sequential Processing, Simultaneous Processing, Sequential Plus Simultaneous Composite and Achievement.

The K-ABC is designed to distinguish between intelligence and achievement. The subtests used to determine sequential, simultaneous and composite processing scores purposefully minimize the influence of language, verbal skills, or individual achievement (e.g., in math and/or reading) on the scoring of a particular child's problem solving ability or mental functioning.

The achievement subtests on the other hand are designed to indicate the child's current level of accomplishment.

The distinction between intelligence and achievement is critical to K-ABC's claim to fairly assess a child's mental abilities by minimizing cultural bias. Yet, each category is also considered equally important to that assessment and the determination of appropriate educational strategies or interventions.

The K-ABC claims to reduce cultural bias when scoring children for intelligence by:

1. minimizing the role of language and verbal skills in the processing subtests;
2. providing a non-verbal scale that is composed of selected subtests that can be administered in pantomime and responded to motorically;
3. designing test stimuli that were as fair as possible to children of diverse backgrounds;
4. testing empirically (Rasch-Wright) and reviewing subjectively (by two Black and two Hispanic reviewers) for item bias;
5. allowing a foreign language to be used to teach the tasks and accepting answers in a foreign language or subcultural slang; and
6. excluding school related items and including teaching items for all processing subtests.

TECHNICAL ADEQUACY

Norm Standardization

The K-ABC employs a norm group stratified using 1980 census data. Consequently, it reflects contemporary population trends more accurately than instruments based on 1960 and/or 1970 census data. The proportion of total minority children in the sample (27.5 percent) closely approximates the proportion of school age minority children in the 1980 census (26.9 percent).

Standardization was augmented by stratification based on community size, educational placement and parental education in addition to age, sex, and race. The proportion of children in each federally specified minority category (Black, Hispanic, Native American, Asian, etc), closely approximates 1980 census data for these categories and far exceeds the proportions used by tests based on 1960 or 1970 census data.

An additional 496 black children were tested to augment the original sample of 311. This enlarged sample of black children allows the black group profile to closely approximate the characteristics of the national sample for all variables previously specified. It also makes possible comparison of each black child with other black children of the same socio-economic status, parental education, etc., when determining norms and comparing a child's performance to those norms.

K-ABC Results for Minority Children Compared to Other Instruments (Particularly WISC-R)

While scores for minority children tested with the K-ABC (particularly for school-age children) continue to be lower than those for white children, black group mean scores are considerably higher than mean IQ's for Blacks on other instruments. Black-White differences are approximately half the differences found on the WISC-R. Of particular note is the isolation of achievement scores from mental processing scores and the consequent ability to determine how the traditional lack of verbal/language skills depresses minority full scale IQ results. The K-ABC identifies weaknesses in the domain of achievement while minimizing the traditional effect of a lack of school-related skills on the assessment of a particular child's mental functioning abilities.

This dynamic is also evident when comparing Hispanic children's scores to those of white children. Hispanic children averaged two to three points below white children across the entire two and a half to twelve and a half age spectrum on the K-ABC test, but eleven points below white children on the WISC-R. In addition, an investigation of the subtests for each of these two instruments identifies the primary source of this discrepancy as the linguistic demands and cultural content of the WISC-R verbal scale as opposed to the K-ABC. The K-ABC provides Hispanics the opportunity to produce scores of mental functioning relatively independent of linguistic/cultural bias and concommitant test score penalization.

For Native-American children this comparative test-result profile is largely replicated. One example of this is the mean Native American WISC-R Verbal IQ score of 74.9 compared with a mean performance IQ of 102.8. In addition their low K-ABC scores on Word Order and Riddles provide further indication of cultural disjunction as opposed to low intelligence.

The influence of this dynamic may explain the differences between Native American test scores for the WISC-R and the K-ABC which range from a minimum of four points (for Sioux children) to as high as seven points (for Navajo children).

APPLICABILITY TO LOCAL EDUCATION AGENCIES

Central to the issue of K-ABC's claim to more accurately assess a child's intelligence by minimizing the depressing effect on test scores of achievement criteria (and a concommitant presumption that such criteria often reflect cultural bias) is the predictive validity of the theory that separating achievement and intelligence results in a more accurate assessment of a child's level of mental functioning.

Separate assessment of achievement and intelligence may be an effective means of accomplishing this but it is obvious that at some point the relationship between intelligence and achievement must be re-integrated.

Children determined to have low levels of achievement but comparatively high levels of intelligence must be found, after an acceptable period of educational intervention or remediation, to reflect this assessment. There is always the possibility that in attempting to minimize the effect of cultural (or achievement) bias on cognitive test scores, smaller discrepancies in scores between minority children and white children will be generated without actually improving the accuracy of cognitive assessment.

This issue will be resolved by research which correlates K-ABC intelligence scores for minorities and non-minorities with later achievement comparisons between the same groups. To date, while some research addressing this issue has been conducted, it has not been, in our opinion, adequately extensive (in number of investigations conducted or children tested) or significantly conclusive.

If K-ABC assessments of children's (both Black and White, separately and comparatively) intelligence correlate predictively with their development, given educational interventions deemed appropriate by analysis of the profile generated for the child by K-ABC, this would provide significant validation to the theory behind the presumed efficacy of this practice.

ADDITIONAL COMMENTS

K-ABC's initial availability to educators is occurring currently (Spring, 1983) for implementation in September, 1983. Training programs and workshops, including its theoretical foundation, history of test development (including validation data), test administration and scoring, interpretation of results, and applicability (through appropriate educational strategies and/or interventions) are being conducted nationally in the interim.

However, this means there are no sites presently employing K-ABC as a current, non-experimental practice.

Data used are from the four year testing period (1978-1982) conducted at, among others, schools in Chicago, Illinois; Albuquerque, New Mexico; Broooklyn, New York; and New Orleans, Louisiana.

Actual costs for training, purchase of materials, administration, etc., cannot be determined at this time. However, indications are use of K-ABC will incur costs competitive with other widely disseminated instruments of this kind.

In addition, interest among educators seems widespread and it is expected K-ABC will be operational in a significant number of educational programs come September.

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